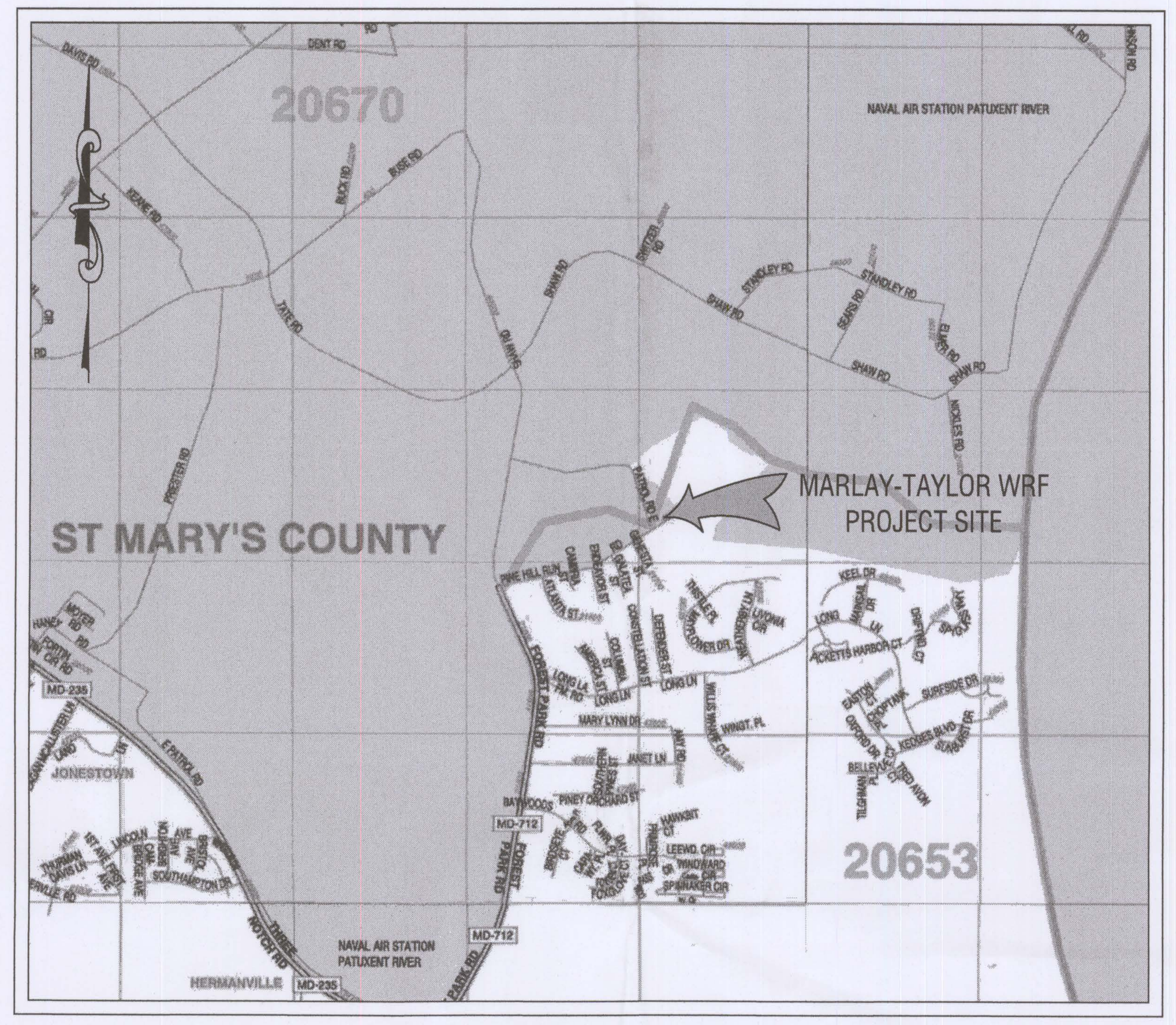
MARLAY-TAYLOR WATER RECLAMATION FACILITY
ST. MARY'S COUNTY, MARYLAND
SECONDARY CLARIFIER NO. 1 REPLACEMENT

GENERAL NOTES:

1. ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ST. MARY'S COUNTY METROPOLITAN COMMISSION (METCOM) STANDARD CONSTRUCTION DETAILS AND TECHNICAL SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT THE ENGINEERING DEPARTMENT, ST. MARY'S COUNTY METROPOLITAN COMMISSION, FORTY-EIGHT (48) HOURS PRIOR TO START OF CONSTRUCTION. PHONE NUMBER 301-737-7400. CONTRACTOR TO ALSO CONTACT THE ENGINEERING DEPARTMENT BEFORE RESTARTING WORK AFTER WORK HAS STOPPED FOR MORE THAN FIVE DAYS.
3. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT (800) 257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
4. ALL CONNECTIONS TO EXISTING UTILITIES BUILT BY OTHERS SHALL BE PERFORMED UNDER THIS CONTRACT.
5. THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE GROUND FIELD OBSERVATIONS, MISS UTILITY PAINT MARKINGS, AND RECORD DRAWINGS. ADDITIONAL BURIED UTILITIES OR STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. ALL SUBSURFACE UTILITIES/STRUCTURES SHOWN ARE TO BE CONSIDERED APPROXIMATE LOCATION ONLY. UNDERGROUND UTILITIES MUST BE VERIFIED BY TEST PITS AND PROTECTED DURING CONSTRUCTION. IN CASE OF BREAKAGE OF ANY EXISTING SEWER PIPE, RESULTANT SEWAGE OVERFLOW AND/OR SPILL SHALL IMMEDIATELY BE REPORTED TO THE OWNER. THE CONTRACTOR SHALL BE LIABLE FOR ALL SEWAGE OVERFLOW AND/OR SPILL CLEAN UP COSTS INCURRED BY THE OWNER AND/OR STATE OF MARYLAND.
6. THE CONTRACTOR SHALL PROTECT ALL TREES FROM DAMAGE BEYOND THE LIMITS OF DISTURBANCE. ANY DAMAGE SHALL BE RECTIFIED TO THE SATISFACTION OF THE OWNER.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, INCLUDING BUT NOT LIMITED TO GROUNDWATER APPROPRIATION PERMITS NECESSARY FOR CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF ANY CHANGES OR CONDITIONS REQUIRED BY ANY PERMIT.
8. THESE DRAWINGS WERE PREPARED BASED ON AS-BUILT AND OTHER CONSTRUCTION DOCUMENTS, WHICH MAY OR MAY NOT BE COMPLETELY ACCURATE. SCALING OF THESE DRAWINGS SHALL BE FOR ESTIMATING PURPOSES ONLY AND ALL DIMENSIONS SCALED SHALL BE CONSIDERED APPROXIMATE AND SHALL BE FIELD VERIFIED.
9. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, STANDARDS, SPECIFICATIONS AND REQUIREMENTS.
10. HORIZONTAL CONTROL IS BASED ON MARYLAND STATE PLANE SYSTEM NAD 83/91. VERTICAL CONTROL IS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
11. CONTRACTOR SHALL NOT TAP OR OTHERWISE PENETRATE EXISTING WATER OR SEWER LINES WITHOUT PRIOR APPROVAL FROM METCOM. CONTRACTOR IS RESPONSIBLE TO AVOID SPILLAGE OF RAW SEWAGE. CONTRACTOR SHALL PROVIDE ALL SEWER PLUGGING AND PUMPING EQUIPMENT NECESSARY TO AVOID SPILLAGE.
12. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO START OF CONSTRUCTION. MATERIALS DELIVERED TO THE SITE FOR WATER AND SEWER CONSTRUCTION MUST BE INSPECTED BY THE OWNER PRIOR TO START OF WORK.
13. MANIPULATION OF VALVES BY ANY PARTY OTHER THAN REPRESENTATIVES OF METCOM IS PROHIBITED.
14. EXISTING FEATURES DENOTED BY SLANTED TEXT
15. EXISTING CONDITIONS DATA TAKEN FROM 1981 BEAVIN CO. PLANS, 1996 BUCHART-HORN PLANS, EBA SURVEY DATED AUGUST 2019.
16. THE CONTRACTOR SHALL REPAIR OR REPLACE IN KIND ANY EXISTING FEATURES DAMAGED DURING CONSTRUCTION.
17. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATION SAFETY AND HEALTH ACT, LATEST EDITION, AND ALL RULES AND REGULATIONS THERETO.
18. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ALL PERMITS SECURED, WHICH TAKE PRECEDENCE OVER SPECIFICATIONS.



VICINITY MAP
SCALE: 1"=2,000'
Map Copyright ADC The Map People (800) 829-6277 Permit use No.: 21003214
Expiration: 03/31/2021

LOCATION MAP
SCALE: 1"=200'

SHEET INDEX

OWNER'S CERTIFICATIONS:

I HEREBY CERTIFY THAT ALL CONSTRUCTION WILL BE IN ACCORDANCE WITH THE ST. MARY'S COUNTY METROPOLITAN COMMISSION'S DESIGN MANUAL AND THESE PLANS AS APPROVED.

[signature] 5-18-21
CHRISTY HOLLANDER, PE, CHIEF ENGINEER — DATE
ST. MARY'S COUNTY METROPOLITAN COMMISSION

I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, DEVELOPMENT, OR ALL OF THESE WILL BE DONE PURSUANT TO THIS PLAN AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM BEFORE BEGINNING THE PROJECT.

[signature] 5-18-21
CHRISTY HOLLANDER, PE, CHIEF ENGINEER — DATE
ST. MARY'S COUNTY METROPOLITAN COMMISSION

SCD INFORMATION BLOCK:

TOTAL DISTURBED AREA: 0.90 AC.
DISTURBED AREA WITHIN PUBLIC R/W: 0.00 AC.
DISTURBED AREA OUTSIDE PUBLIC R/W: 0.90 AC.
AREA TO BE VEGETATIVE STABILIZED: 0.70 AC.
VOLUME OF CUT: 4,300 CY
VOLUME OF FILL: 3,800 CY
SPOIL: 500 CY

* ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF DETERMINING PERMITTING REQUIREMENTS. SINCE FINAL EARTHWORK QUANTITIES ARE BASED ON MANY VARIABLE CONDITIONS OVER WHICH THE ENGINEER HAS NO CONTROL, INCLUDING VARIABILITY OF SOILS, ALLOWABLE SURVEY, CONSTRUCTION TOLERANCES, AND COMPACTION RATES. THE ENGINEER CANNOT GUARANTEE THE ACCURACY OF THE ESTIMATES OF FINAL CONSTRUCTION. THE OWNER/DEVELOPER SHOULD REQUIRE THE CONTRACTOR TO PROVIDE THEIR OWN ESTIMATES OF THE QUANTITIES IN THEIR RESPECTIVE BID.

ST. MARY'S
SOIL CONSERVATION DISTRICT

St. Mary's
Soil Conservation District
Plan Sheets 1-5 of 5
Approved 5/26/2021
By [signature]
Plan expires 2 years from approval date

The Limits of Grading equal the Limits of Disturbance as shown on Sheet #ES-01

ST. MARY'S COUNTY
Dept. Public Works & Transportation
Date Approved: 06-15-2021
Approval Reference: GP13-11
Approved By: [signature]

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12420, EXPIRATION DATE: 4/20/2023

RK&K
RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

TITLE SHEET, SHEET INDEX, GENERAL NOTES

ENGINEER	DESIGNED BY
RJA	MLT
DRAWN BY	DATE
DED	4/2021

PROJECT NUMBER: 8191SR

DRAWING NUMBER: G-1

GP13-11

ABBREVIATIONS

AB	ANCHOR BOLT
ABAN	ABANDONED
Ac.	ACRE
ADJ	ADJUSTABLE, ADJACENT
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE, ALTERNATIVE
ALUM	ALUMINUM
ANC	ANCHOR
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASSY	ASSEMBLY
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
B	BEAM, BORING
BTOB	BACK TO BACK
BF	BLIND FLANGE
BHP	BRAKE HORSEPOWER
BITUM	BITUMINOUS
BK	BACK
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BLT(S)	BOLT(S)
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICES
BOF	BOTTOM OF FOOTING
BOT	BOTTOM
BRG	BEARING
BRK	BRICK
BS	BOTH SIDES
BSMT	BASEMENT
B&S	BELL AND SPIGOT
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT-HOUR
BTWN	BETWEEN
C/EJ	CONTRACTION/EXPANSION JOINT
C/M	CIVIL/MECHANICAL
CFM	CUBIC FEET PER MINUTE
C&G	CURB AND GUTTER
CHB	CHORD BEARING
CHKD	CHECKERED
CHKDPL	CHECKERED PLATE
CHL	CHORD LENGTH
CI	CAST IRON
CIMH	CAST IRON MANHOLE
CIMHS	CAST IRON MANHOLE STEPS
CIP	CAST IRON PIPE
CISP	CAST IRON SOIL PIPE
CJ	CONTRACTION JOINT
CJT	CONTROL JOINT
CL	CLASS
CLG	CEILING
CLR	CLEAR, CLEARANCE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT, COMPANY
COL	COLUMN
COMB	COMBINATION
COMP	COMPRESSOR, COMPRESSED
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS, CONTINUATION, CONTROL
COR	CORNER
CORR	CORRIDOR, CORRUGATED
COV	COVER
CPLG	COUPLING
CRS	COURSES, CORROSION-RESISTANT STEEL
CSJ	CONSTRUCTION JOINT
CSK	COUNTERSUNK
CTOC	CENTER TO CENTER
CTR(S)	CENTER(S)
CU	CUBIC
CV	CHECK VALVE
CUYD	CUBIC YARD
D	DOOR, DRAIN, DAMPER
DBL	DOUBLE
DEG	DEGREE
DEPT	DEPARTMENT
DH	DOOR HEIGHT
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISCH	DISCHARGE
DIV	DIVISION
DN	DOWN
DO	DOOR OPENING
DPR	DAMPER
DR	DRAIN
DS	DOWNSPOUT
DWG(S)	DRAWING(S)
DWL(S)	DOWEL(S)

ABBREVIATIONS (CONTINUED)

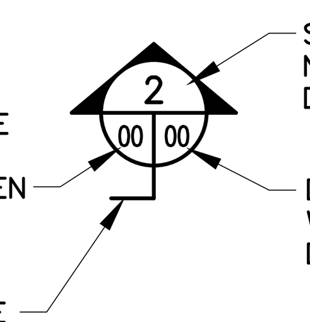
E	EAST
EA	EACH
ECC	ECCENTRIC
EF	EACH FACE, EXHAUST FAN
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATION
ELL	ELBOW
EMER	EMERGENCY
ENCL	ENCLOSURE
ENT	ENTRANCE
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EWEF	EACH WAY EACH FACE
EXH	EXHAUST
EX	EXISTING
EXP	EXPANSION, EXPOSED
EXPJT	EXPANSION JOINT
EXT	EXTENSION, EXTERIOR, EXTERNAL
FB	FACE BRICK
FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FTOF	FACE TO FACE
FIG	FIGURE
FIN	FINISH
FINGR	FINISH GRADE
FL	FLOOR, FLOW LINE
FLASH	FLASHING
FLEX	FLEXIBLE
FLG	FLANGE, FLASHING
FM	FORCE MAIN, FLOW METER
FND	FOUNDATION
FOM	FACE OF MASONRY
FRP	FIBERGLASS REINFORCED PLASTIC OR POLYESTER
FT	FEET, FOOT
FTG	FOOTING
FWD	FORWARD
F&F	FLANGE & FLARE
GA	GAUGE
GAB	GRADED AGGREGATE BASE
GAL	GALLON
GALV	GALVANIZED
GEN	GENERAL, GENERATOR
GPM	GALLONS PER MINUTE
GR	GRADE
GV	GATE VALVE, GRAVITY VENTILATOR
GWB	GYPSUM WALLBOARD
GYP	GYPSUM
H	ACCESS HATCH
HA	HYDRAULIC ACTUATOR
HALCP	HYDRAULIC ACTUATOR LOCAL CONTROL PANEL
HAMCP	HYDRAULIC ACTUATOR MAIN CONTROL PANEL
HB	HOSE BIBB
HD	HEAD
HF	HOSE FAUCET
HGT	HEIGHT
HLU	HAND LAY-UP
HM	HOLLOW METAL
HMA	HOT MIX ASPHALT
HMC	HARNESSED MECHANICAL COUPLING
HMJ	HARNESSED MECHANICAL JOINT
HOA	HAND OFF AUTO
HORZ	HORIZONTAL
HP	HIGH POINT, HORSEPOWER
HR	HOUR, HANDRAIL
HSS	HOLLOW STRUCTURAL STEEL
HV	HOSE VALVE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HW	HOT WATER
HWY	HIGHWAY
HYD	HYDRANT
ID	INSIDE DIAMETER, INLET DAMPER
IF	INSIDE FACE
IN	INCH, INCHES
INC	INCORPORATED
INCL	INCLUDING
INCR	INCREASE, INCREASING, INCREASER
INSUL	INSULATE, INSULATION, INSULATING
INV	INVERT
K	KIPS
KSI	KIPS PER SQUARE INCH
KW	KILOWATT
KWH	KILOWATT HOUR
L	LOUVER, LENGTH
LB(S)	POUND(S)
LF	LINEAR FEET
LG	LENGTH, LONG
LIC	LICENSE
LIN	LINEAL, LINEAR
LO	LOUVER OPENING
LOC	LIMIT OF CONTRACT
LP	LOW POINT

ABBREVIATIONS (CONTINUED)

M	MOTOR
MAN	MANUAL
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MC	MECHANICAL COUPLING
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MED	MEDIUM
MFR(S)	MANUFACTURER(S)
MG	MILLION GALLONS
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MJRG	MECHANICAL JOINT RETAINER GLAND
MJTR	MECHANICAL JOINT WITH TIE ROD
MK	MARK NUMBER
MO	MASONRY OPENING, MOTOR OPERATED
MOD	MOTOR OPERATED DAMPER
MTL	MATERIAL
MVMCC	MEDIUM VOLTAGE MOTOR CONTROL CENTER
N	NORTH
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
N.I.C	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.(S)	NUMBER(S)
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NPW	NONPOTABLE WATER
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD
OPER	OPERATING
OPNG	OPENING
OPP	OPPOSITE, OPPOSING
P	PUMP
PAV	PAVEMENT
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PCF	POUNDS PER CUBIC FOOT
PE	PLAIN END
PH	PIPE HANGER
PJ	PUSH ON JOINT
PK	PK NAIL
PL	PLATE
PLYWD	PLYWOOD
PNL(S)	PANEL(S)
POL	POINT ON LINE
PR	PAIR
PREFAB	PREFABRICATED
PROP	PROPOSED
PS	PIPE SUPPORT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
P.V.C	POINT OF VERTICAL CURVE
P.V.I	POINT OF VERTICAL INTERSECTION
P.V.T	POINT OF VERTICAL TANGENT
PW	POTABLE WATER
QTR	QUARTER
R	RADIUS, RISER
RCP	REINFORCED CONCRETE PIPE
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RED	REDUCER, REDUCING
REF	REFERENCE
REINF	REINFORCED, REINFORCING
REM	REMOVABLE
REQD	REQUIRED
REV	REVISION, REVISED
RFF	REINFORCED FABRIC FENCE
RG	RETAINER GLAND
RM	ROOM
ROW	RIGHT-OF-WAY
RPM	REVOLUTIONS PER MINUTE
R/W	RIGHT-OF-WAY
S	SOUTH, SPEAKER
SAN	SANITARY
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCE	STABILIZED CONSTRUCTION ENTRANCE
SCH	SCHEDULE
SD	STORM DRAIN
SEC	SECOND
SECT	SECTION
SF	SQUARE FOOT, SUPPLY FAN
SG	SLUICE GATE
SHT	SHEET
SIM	SIMILAR
SPA	SPACING, SPACES
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SS	STAINLESS STEEL, SANITARY SEWER
STA	STATION
STD	STANDARD
STL	STEEL
STOR	STORAGE

ABBREVIATIONS (CONTINUED)

STR	STRUCTURAL
SUP	SUPPLY
SUSP	SUSPENDED
SV	SHUTOFF VALVE
SYS	SYSTEM
T&B	TOP AND BOTTOM
TBM	TEMPORARY BENCH MARK
TDH	TOTAL DYNAMIC HEAD
TEL	TELEPHONE
TEMP	TEMPERATURE, TEMPORARY
THK	THICK, THICKNESS
TOC	TOP OF CONCRETE
TOG	TOP OF GRATE
TOM	TOP OF MASONRY
TOR	TOP OF RIM
TOS	TOP OF STEEL
TRAV	TRAVERSE
TS	TUBE STEEL
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UNREINF	UNREINFORCED
USGS	UNITED STATES GEOLOGICAL SURVEY
V	VALVE, VOLT
VAC	VACUUM
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VT	VITRIFIED TERRA COTTA
VTR	VENT THROUGH ROOF
W	WEST, WIDTH, WATER
W/	WITH
WHC	WATER HOUSE CONNECTION
WI	WROUGHT IRON
WL	WATER LEVEL
WM	WATER METER
W/O	WITHOUT
WT	WATERTIGHT
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
WZTC	WORK ZONE TRAFFIC CONTROL
X	BY, TIMES
YD	YARD
&	AND
∠	ANGLE (STEEL)
@	AT
℄	CENTERLINE
C	CHANNEL (STEEL)
#	NUMBER
%	PERCENT



GENERAL LEGEND

EXISTING

Item	Symbol
CONTOUR	9
INDEX CONTOUR	10
WATER SERVICE	W
OVERHEAD ELECTRIC	OHE
UNDERGROUND ELECTRIC	UGE
UNDERGROUND TELEPHONE	UGT
EDGE OF WATER	
RIGHT-OF WAY	
EASEMENT	
CENTERLINE	
FENCE	X X
PROPERTY LINE	
GUARDRAIL	
FORCE MAIN	FM
GRAVITY SEWER	SS
STORM DRAIN	SD
PRESENTLY ABANDONED	
STREAM	
DIRT ROAD	
STONE ROAD	
MACADAM ROAD	
RAILROAD TRACKS	
SANITARY SEWER MANHOLE	S
LIGHT POLE	
UTILITY POLE	
WATER METER	WM
WATER VALVE	WV
GAS VALVE	GV
MAIL BOX	
TREE	
WOODS OR BRUSH	
BUILDING STRUCTURES	
BENCH MARK	B.M.
STANDARD PENETRATION TEST BORING	B-X
CONTROL POINT	
GUY POLE	
ITEMS TO BE DEMOLISHED AND REMOVED	

PROPOSED

Item	Symbol
CONTOUR	9
INDEX CONTOUR	10
RIGHT-OF-WAY	
TEMPORARY EASEMENT	
GATE VALVE	
HOSE VALVE OR FAUCET	
CHECK VALVE	
REDUCER	
ELBOW UP	
ELBOW DOWN	
FENCE	X X
FORCE MAIN	FM
GAS	GAS
STORM DRAIN	SD
LIMIT OF DISTURBANCE	LOD
SILT FENCE	SF
SUPER SILT FENCE	SSF
WATER	W
DRAIN	
PROPERTY LINE	
TEE	
WYE	
EXISTING UTILITY TO BE ABANDONED BY CONTRACTOR	
EXISTING UTILITY TO BE ABANDONED BY OTHERS	
FIRE HYDRANT	

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12420, EXPIRATION DATE: 4/20/2023

RK&K
RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

NO.	DESCRIPTION	BY	DATE

REVISIONS

MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARYS COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

ABBREVIATIONS AND LEGEND

ENGINEER	DESIGNED BY
RJA	MLT
DRAWN BY	DATE
DED	4/2021

PROJECT NUMBER 8191SR

DRAWING NUMBER G-2

NOTES:

THE MERIDIAN SOURCE OF THIS TOPOGRAPHIC SURVEY IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM (NAD83 [1991 HARN]). ALL DISTANCES SHOWN HEREON ARE IN U.S. SURVEY FEET.

ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF1988 (NAVD88).

BORING LOCATIONS

POINT	COORDINATES	
	NORTH	EAST
SB-1	219,008.37	1,481,058.95
SB-2	218,909.87	1,481,056.50
SB-3	218,943.74	1,481,110.25

TRAVERSE SURVEY CONTROL

TRAV. #	NORTHING	EASTING	ELEV.	DESCRIPTION
500	218,799.7549	1,481,059.7962	15.34'	MAG NAIL
501	219,061.9655	1,481,118.8416	8.35'	MAG NAIL
502	218,996.7436	1,480,961.6648	14.56'	R&C

1"=10' 10' 5' 0 10' 20'

PROFESSIONAL CERTIFICATION

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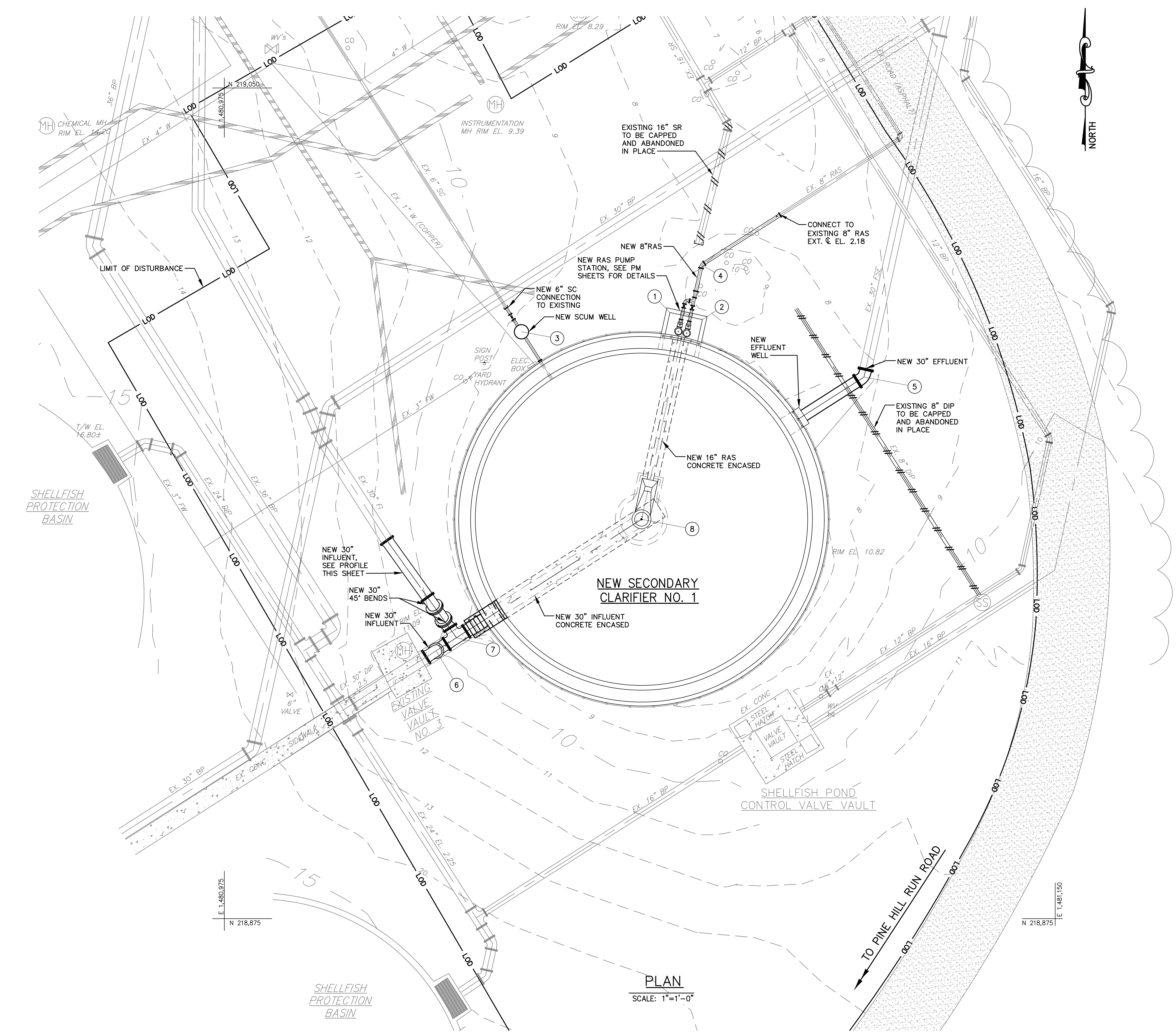
NO.	DESCRIPTION	BY	DATE
	REVISIONS		

MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARYS COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

EXISTING SITE PLAN AT SECONDARY CLARIFIER NO. 1
LIMIT OF WORK AND SOIL BORING LOCATIONS

ENGINEER	DESIGNED BY
RJA	MLT
DRAWN BY	DATE
DED	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
C-1
SHEET NO. 3 OF 28

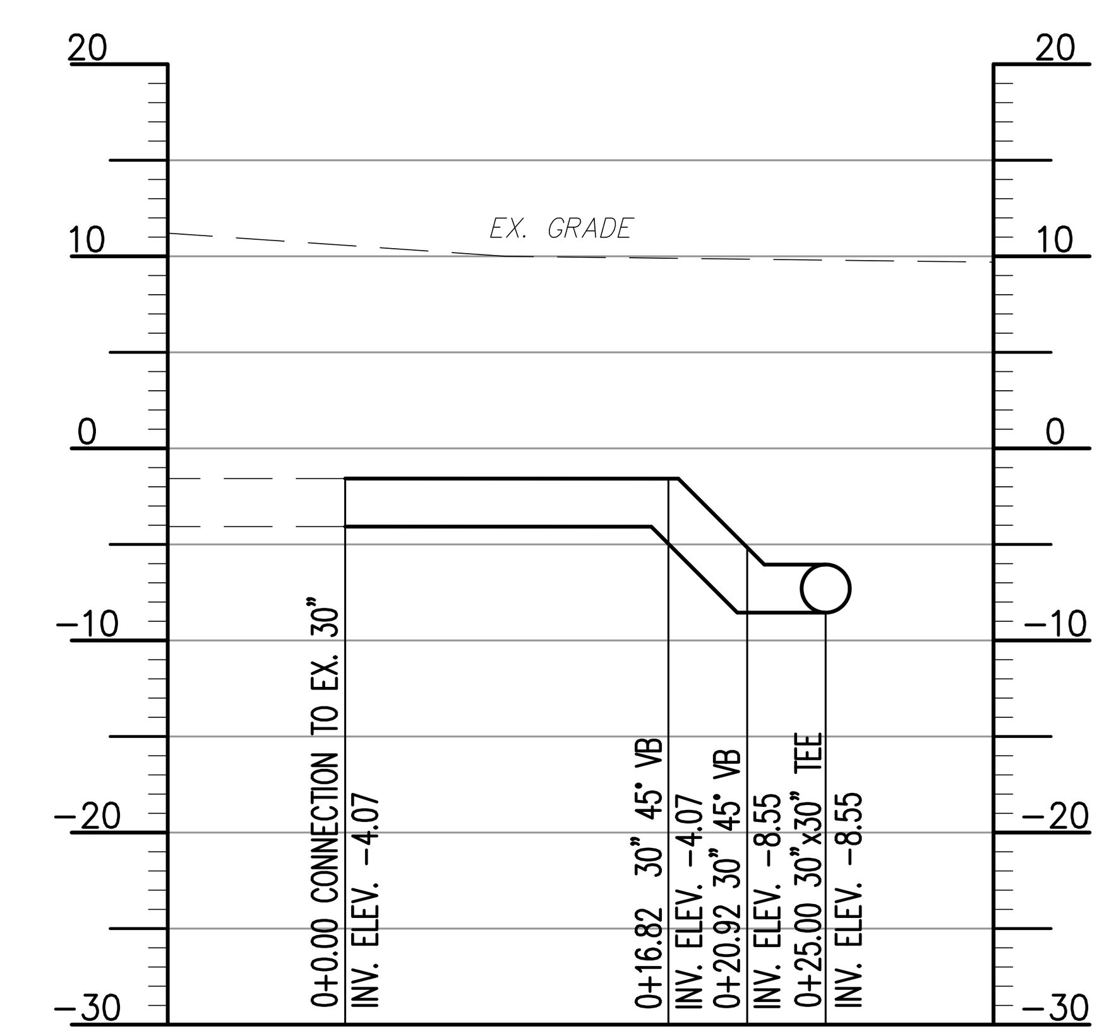


PLAN

SCALE: 1"=1'-0"

NOTE:
CONTRACTOR TO TEST PIT AT ALL TIE-INS TO EXISTING PIPING. ELEVATIONS SHOWN ARE FROM AS-BUILT DRAWINGS.

STAKE-OUT TABLE			
ID.	DESCRIPTION	COORDINATES	
1	NW CORNER OF RAS STATION	N 219,002.69	E 1,481,068.84
2	NE CORNER OF RAS STATION	N 219,001.19	E 1,481,075.68
3	CENTER OF SCUM WELL	N 218,998.63	E 1,481,037.58
4	8" RAS 45° BEND	N 219,012.71	E 1,481,075.54
5	30" EFFLUENT 45° BEND	N 218,989.11	E 1,481,109.73
6	30" INFLUENT 90° BEND	N 218, 931.45	E 1,481,019.59
7	30"x30" INFLUENT TEE	N 218,934.20	E 1,481,023.88
8	CLARIFIER CENTER	N 218,959.13	E 1,481,062.87



PROFILE–NEW 30" INFLUENT

HORIZ. 1"=10'
VERT. 1"=10'

1"=10' 10' 5' 0 10' 20'

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12420, EXPIRATION DATE: 4/20/2023

RK&K
RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

NO.	DESCRIPTION	BY	DATE
REVISIONS			

MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

PROPOSED
SECONDARY CLARIFIER NO. 1, PIPING PLAN AND PROFILE

ENGINEER	DESIGNED BY
RJA	MLT
DRAWN BY	DATE
DED	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
C–2

SITE PLAN
SCALE: 1"=50'-0"

NOTES:

THE MERIDIAN SOURCE OF THIS TOPOGRAPHIC SURVEY IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM (NAD83 [1991 HARN]). ALL DISTANCES SHOWN HEREON ARE IN U.S. SURVEY FEET.

CRITICAL AREA NOTES:

1. ALL STRUCTURES SHOWN ON THIS SHEET ARE EXISTING. NO NEW IMPERVIOUS SURFACE IS PROPOSED AS PART OF THIS PROJECT, ONLY REPLACEMENT TANKS.
2. TOTAL PARCEL AREA IS 34.77 ACRES (TWO PARCELS). TOTAL LIMIT OF DISTURBANCE (LOD) AREA IS 0.90 ACRES.

LEGEND

——— LOD ———	LIMITS OF DISTURBANCE
———— — — —	PARCEL BOUNDARY
— — — — — —	IDA CRITICAL AREA BOUNDARY

1"=50' 50' 25' 0 50' 100'

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12420, EXPIRATION DATE: 4/20/2023

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700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

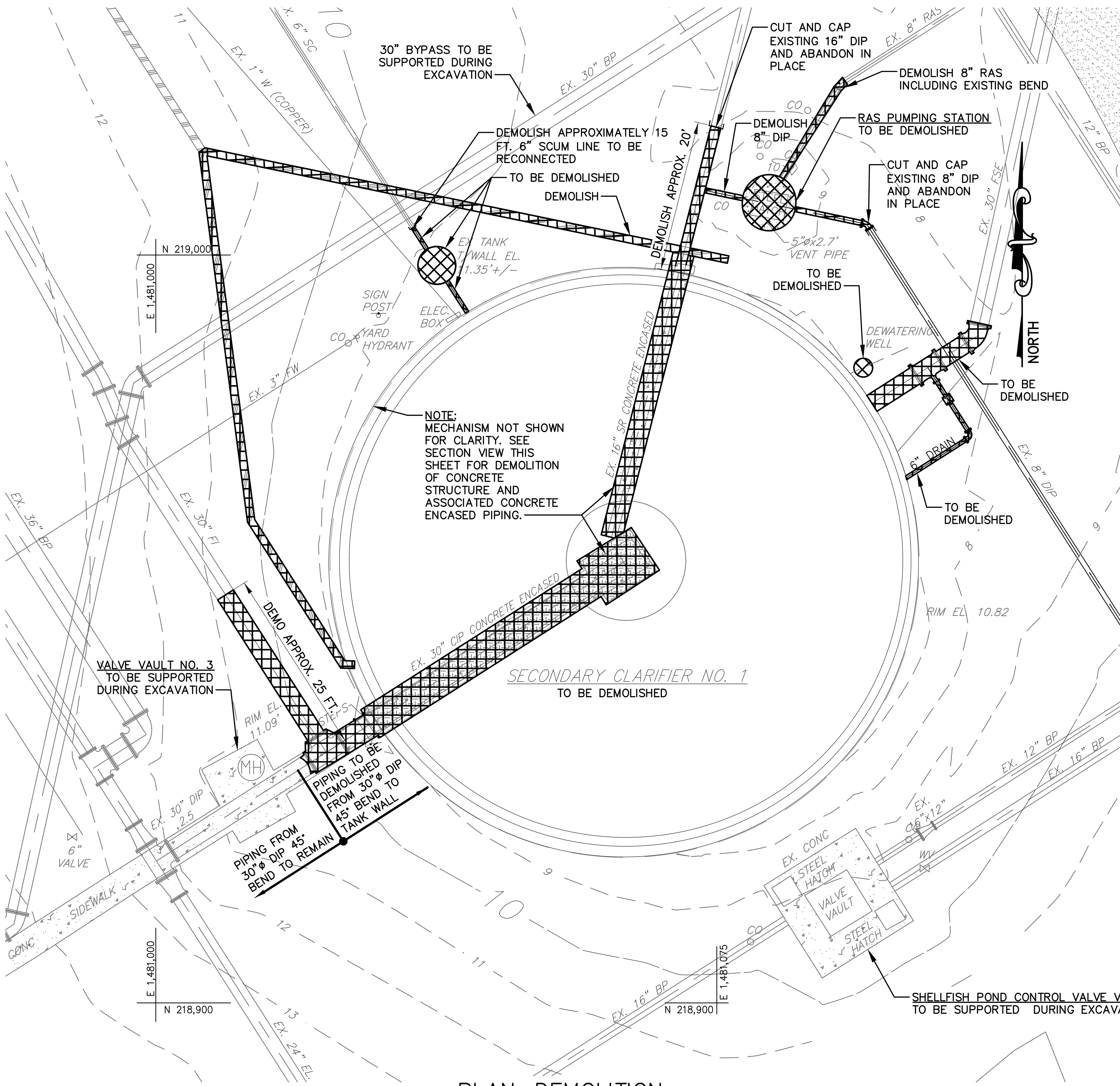
OVERALL SITE PLAN

ENGINEER	DESIGNED BY
RJA	MLT
DRAWN BY	DATE
RAE	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
C-3

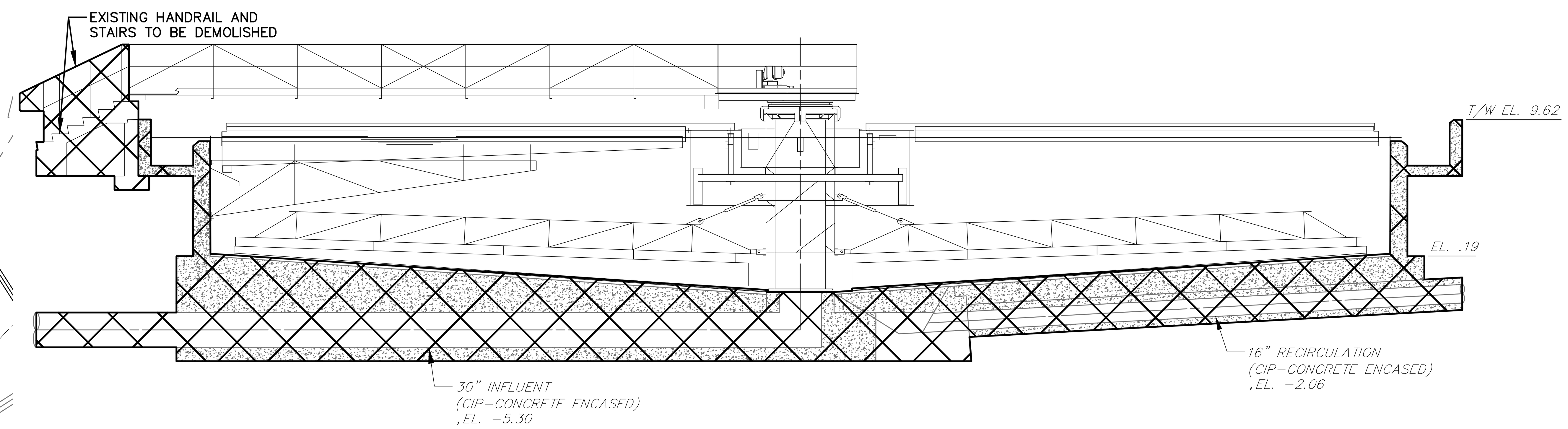
NOTES:

1. SPIRAL SCRAPER BRIDGE AND DRIVE AND ENTIRE CLARIFIER MECHANISM TO BE UNINSTALLED BY CONTRACTOR AND STORED DURING CONSTRUCTION FOR RE-USE IN NEW CLARIFIER STRUCTURE PER SPECIFICATIONS.
2. EXISTING FORD-HALL BRUSH LAUNDER CLEANING SYSTEM TO BE UNINSTALLED BY CONTRACTOR AND STORED DURING CONSTRUCTION FOR RE-USE IN NEW CLARIFIER STRUCTURE.
3. EXISTING WEIR PLATES AND SCUM BAFFLE TO BE UNINSTALLED BY CONTRACTOR AND STORED DURING CONSTRUCTION FOR RE-USE IN NEW CLARIFIER STRUCTURE.
4. EXISTING STAMFORD BAFFLES TO BE UNINSTALLED BY CONTRACTOR AND STORED DURING CONSTRUCTION FOR RE-USE IN NEW CLARIFIER STRUCTURE.
5. EXISTING RAILING TO BE UNINSTALLED BY CONTRACTOR AND STORED DURING CONSTRUCTION FOR RE-USE IN NEW CLARIFIER STRUCTURE.



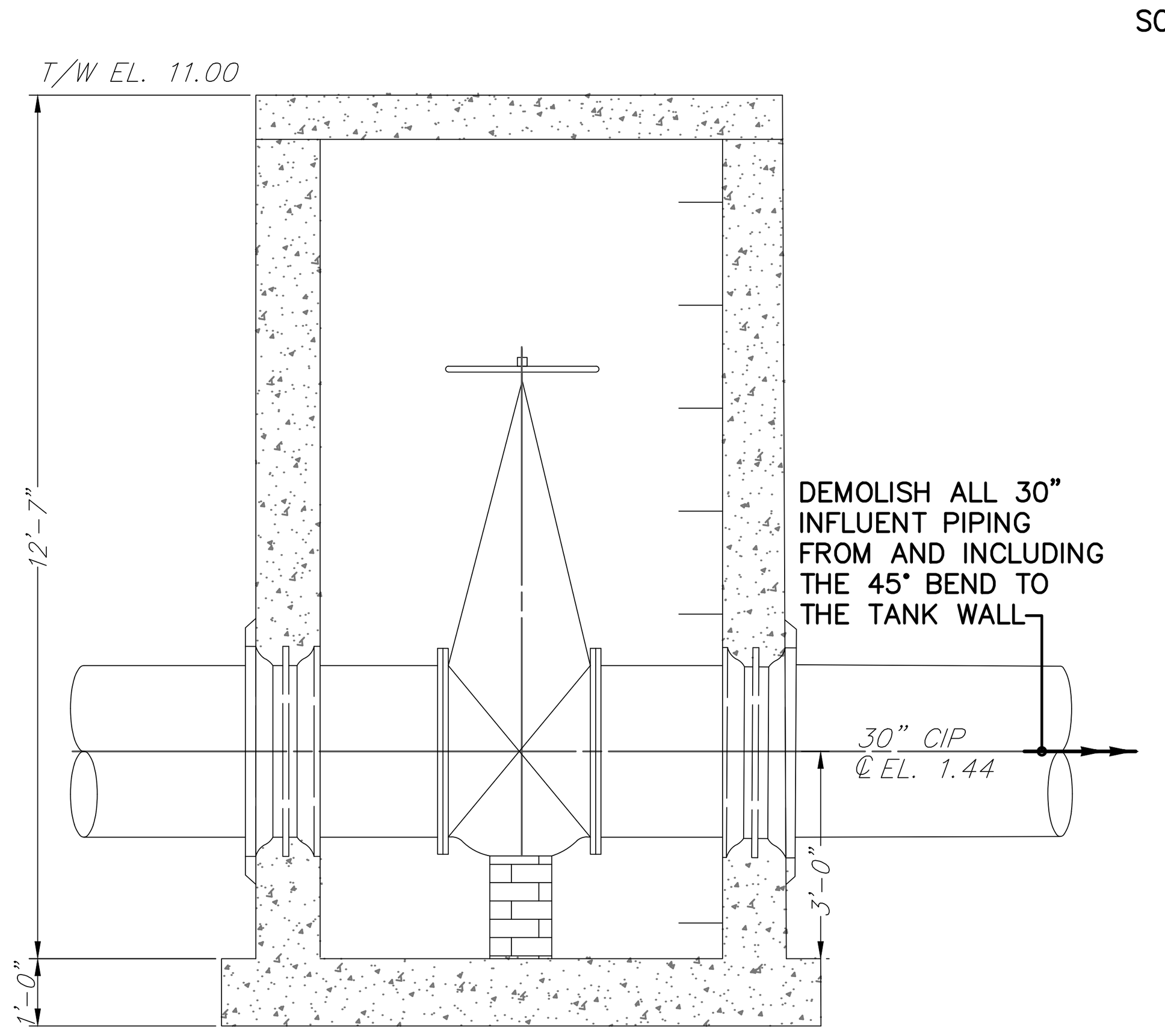
PLAN–DEMOLITION

SCALE: 1"=10'



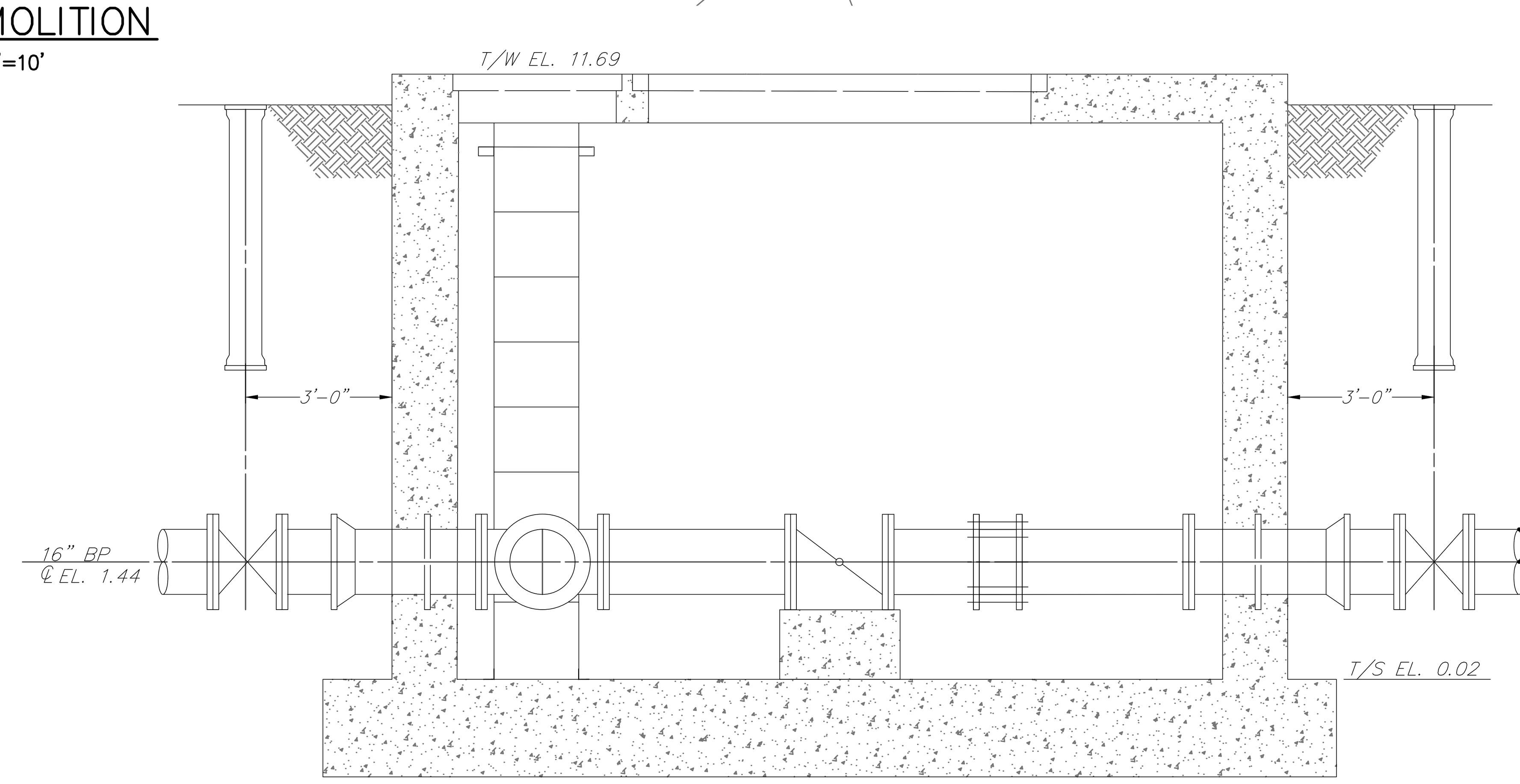
SECTIONAL ELEVATION–DEMOLITION

SCALE: 3/16"=1'-0"



VALVE VAULT NO. 3 TO BE SUPPORTED DURING EXCAVATION

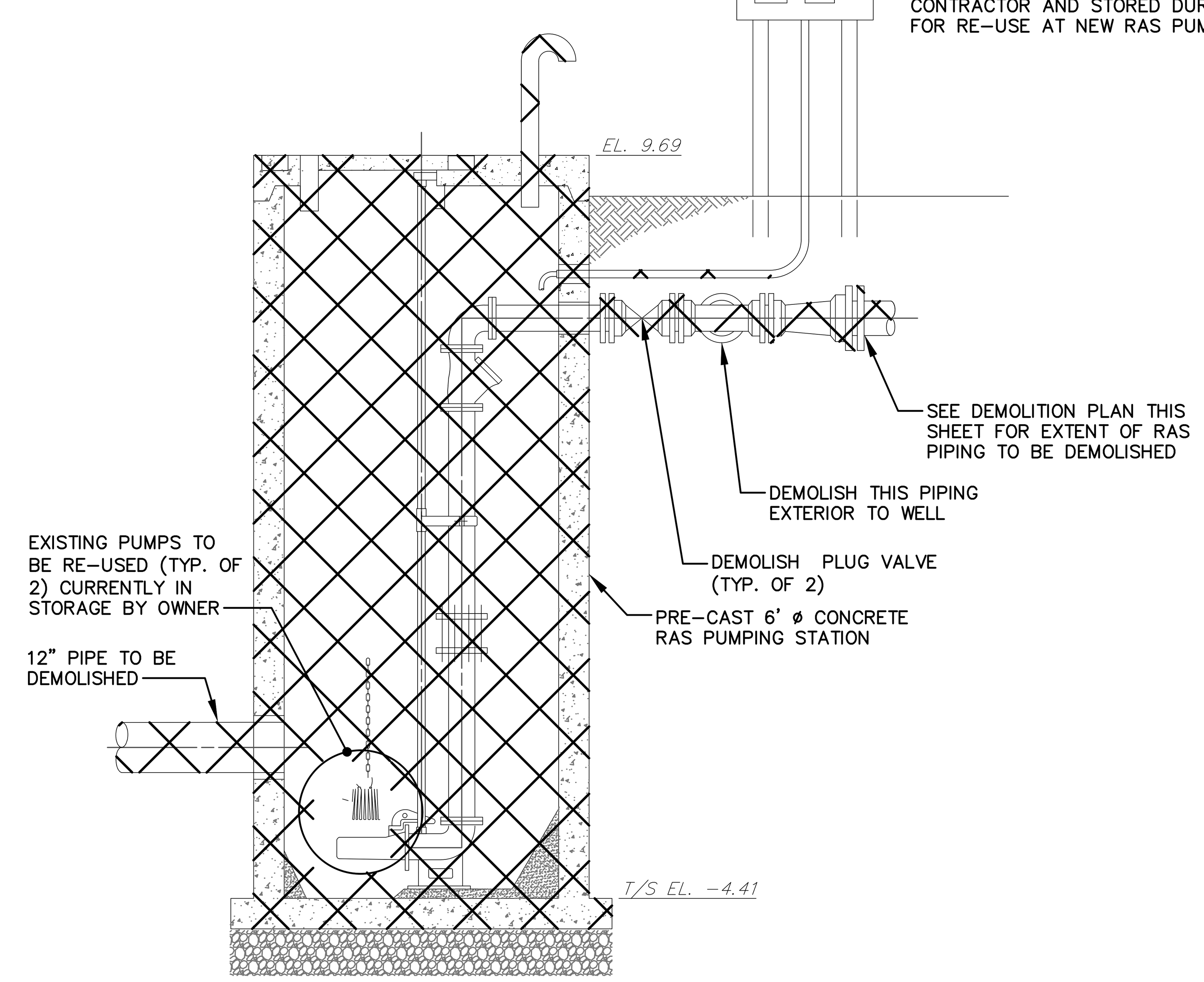
SCALE: ⅜"=1'-0"



SHELLFISH POND CONTROL VALVE VAULT TO BE SUPPORTED DURING EXCAVATION

SCALE: ⅜"=1'-0"

NOTE:
THE EXISTING RAS PUMP DISCONNECT SWITCHES AND TERMINAL BOX TO BE UNINSTALLED BY CONTRACTOR AND STORED DURING CONSTRUCTION FOR RE-USE AT NEW RAS PUMP STATION.



RAS PUMPING STATION TO BE DEMOLISHED

SCALE: ⅜"=1'-0"

1"=10' (10' 5' 0 10' 20')

PROFESSIONAL CERTIFICATION
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700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

NO.	DESCRIPTION	BY	DATE

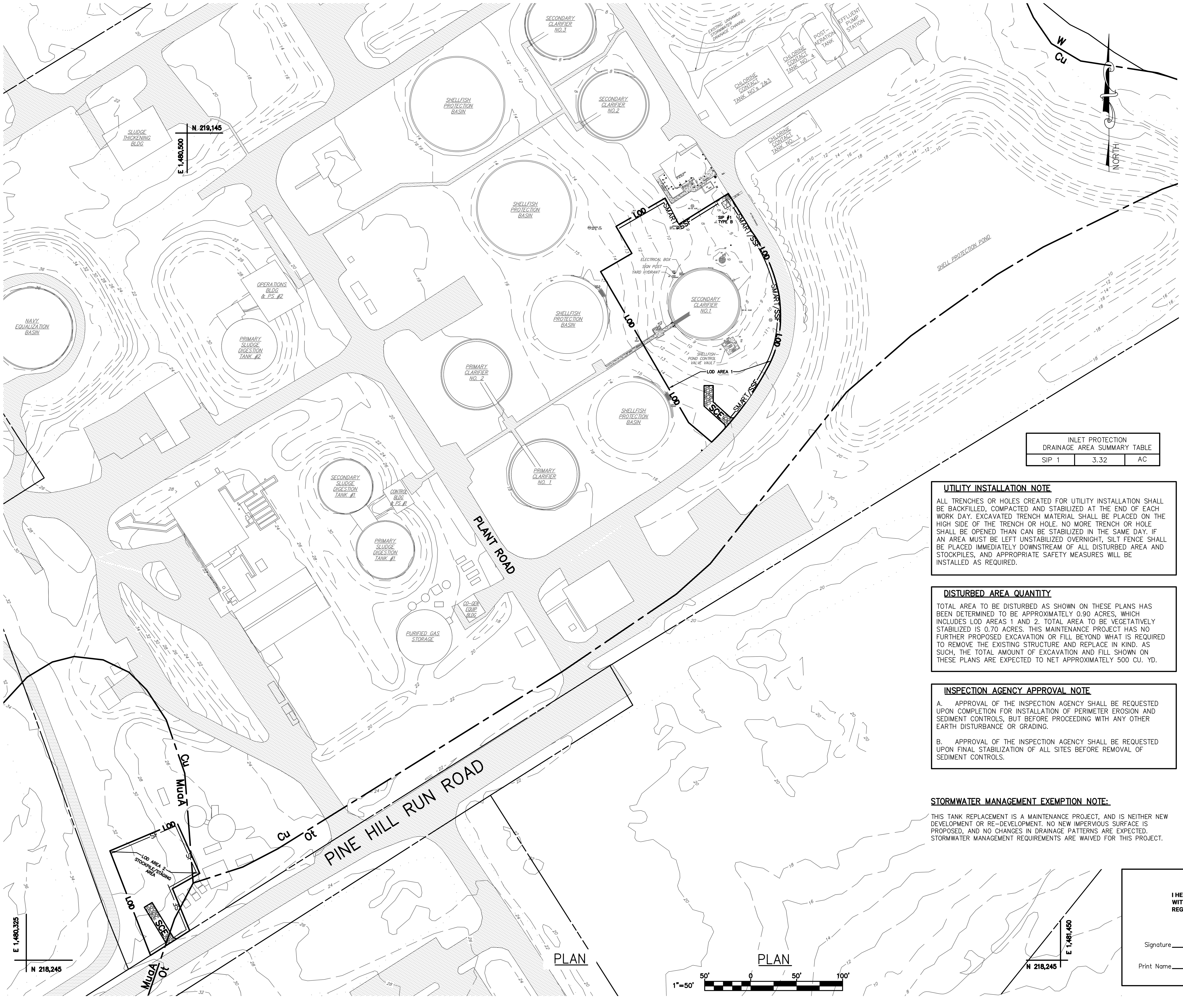
REVISIONS

MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

DEMOLITION- SECONDARY CLARIFIER NO. 1

ENGINEER	DESIGNED BY
RJA	MLT
DRAWN BY	DATE
DED	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
D–1



GENERAL NOTE:

1. SURVEY WAS COMPLETED FOR THE AREA SURROUNDING SECONDARY CLARIFIER NO. 1. ALL FEATURES SHOWN ON THESE PLANS OUTSIDE OF LOD AREA 1 ARE BASED ON GIS DATA RECEIVED FROM ST. MARY'S COUNTY'S GIS DATABASE.
2. ALL PROPOSED WORK INCLUDES REPLACEMENT OF STRUCTURES IN KIND WITH EXISTING. NO INCREASES IN SITE IMPERVIOUS AREA, AND NO CHANGES IN DRAINAGE PATTERNS ARE EXPECTED POST PROJECT COMPLETION.

E&S NOTES:

1. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
   (A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND
   (B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
2. SEE SEQUENCE OF CONSTRUCTION ON SHEET ES-02.
3. TEMPORARY STOCKPILE/STAGING AREA AS SHOWN ON PLANS. CONTRACTOR MAY USE PAVED AREAS ON SITE FOR ADDITIONAL STORAGE AS NEEDED WITH THE APPROVAL OF SITE MANAGER.
4. LIMITS OF DISTURBANCE ARE UNDER 1 ACRE, THEREFORE A MARYLAND GENERAL CONSTRUCTION ACTIVITY PERMIT (NOI) IS NOT REQUIRED.
5. NO PERMANENT STRUCTURES (FENCES, SHEDS, PLAY EQUIPMENT, RETAINING WALLS, ETC.) SHALL BE PERMITTED WITHIN ANY STORM DRAINAGE EASEMENT OR DRAINAGE EASEMENT EITHER SHOWN OR DESCRIBED ON A FINAL PLAT OR EASEMENT PLAT.
6. ALL GRADING ON LOT/PARCEL, EITHER BEFORE OR AFTER THE CONSTRUCTION OF A DWELLING, OR APPURTENANCES, SHALL BE THE FULL RESPONSIBILITY OF THE LOT/PARCEL OWNER.

LEGEND

- LOD — LIMITS OF DISTURBANCE
- SF — SILT FENCE
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- SIP — STANDARD INLET PROTECTION
- PROPERTY LINE
- SOIL BOUNDARY
- TREE LINE

INLET PROTECTION DRAINAGE AREA SUMMARY TABLE		
SIP 1	3.32	AC

UTILITY INSTALLATION NOTE

ALL TRENCHES OR HOLES CREATED FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORK DAY. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH OR HOLE. NO MORE TRENCH OR HOLE SHALL BE OPENED THAN CAN BE STABILIZED IN THE SAME DAY. IF AN AREA MUST BE LEFT UNSTABILIZED OVERNIGHT, SILT FENCE SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ALL DISTURBED AREA AND STOCKPILES, AND APPROPRIATE SAFETY MEASURES WILL BE INSTALLED AS REQUIRED.

DISTURBED AREA QUANTITY

TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 0.90 ACRES, WHICH INCLUDES LOD AREAS 1 AND 2. TOTAL AREA TO BE VEGETATIVELY STABILIZED IS 0.70 ACRES. THIS MAINTENANCE PROJECT HAS NO FURTHER PROPOSED EXCAVATION OR FILL BEYOND WHAT IS REQUIRED TO REMOVE THE EXISTING STRUCTURE AND REPLACE IN KIND. AS SUCH, THE TOTAL AMOUNT OF EXCAVATION AND FILL SHOWN ON THESE PLANS ARE EXPECTED TO NET APPROXIMATELY 500 CU. YD.

INSPECTION AGENCY APPROVAL NOTE

A. APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.

B. APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON FINAL STABILIZATION OF ALL SITES BEFORE REMOVAL OF SEDIMENT CONTROLS.

STORMWATER MANAGEMENT EXEMPTION NOTE:

THIS TANK REPLACEMENT IS A MAINTENANCE PROJECT, AND IS NEITHER NEW DEVELOPMENT OR RE-DEVELOPMENT. NO NEW IMPERVIOUS SURFACE IS PROPOSED, AND NO CHANGES IN DRAINAGE PATTERNS ARE EXPECTED. STORMWATER MANAGEMENT REQUIREMENTS ARE WAIVED FOR THIS PROJECT.

ST. MARY'S COUNTY SOIL CONSERVATION DISTRICT

APPROVED ____ DATE ____

OWNER/DEVELOPER CERTIFICATION:

ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT, OR ALL OF THESE, WILL BE DONE PURSUANT TO THIS PLAN AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPT OF ENVIRONMENT APPROVED TRAINING PROGRAM BEFORE BEGINNING THE PROJECT.

APPROVED ____ DATE ____

CONSULTANT'S CERTIFICATION

I HEREBY CERTIFY THAT THE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH APPROVED EROSION AND SEDIMENT CONTROL ORDINANCES, REGULATIONS, STANDARDS, AND CRITERIA.

Signature ____ MD License # 200370

Print Name Lucia Noya Date 04/21/2021

PROFESSIONAL CERTIFICATION

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ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

NO.	DESCRIPTION	BY	DATE

REVISIONS

MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

EROSION AND SEDIMENT CONTROL PLAN

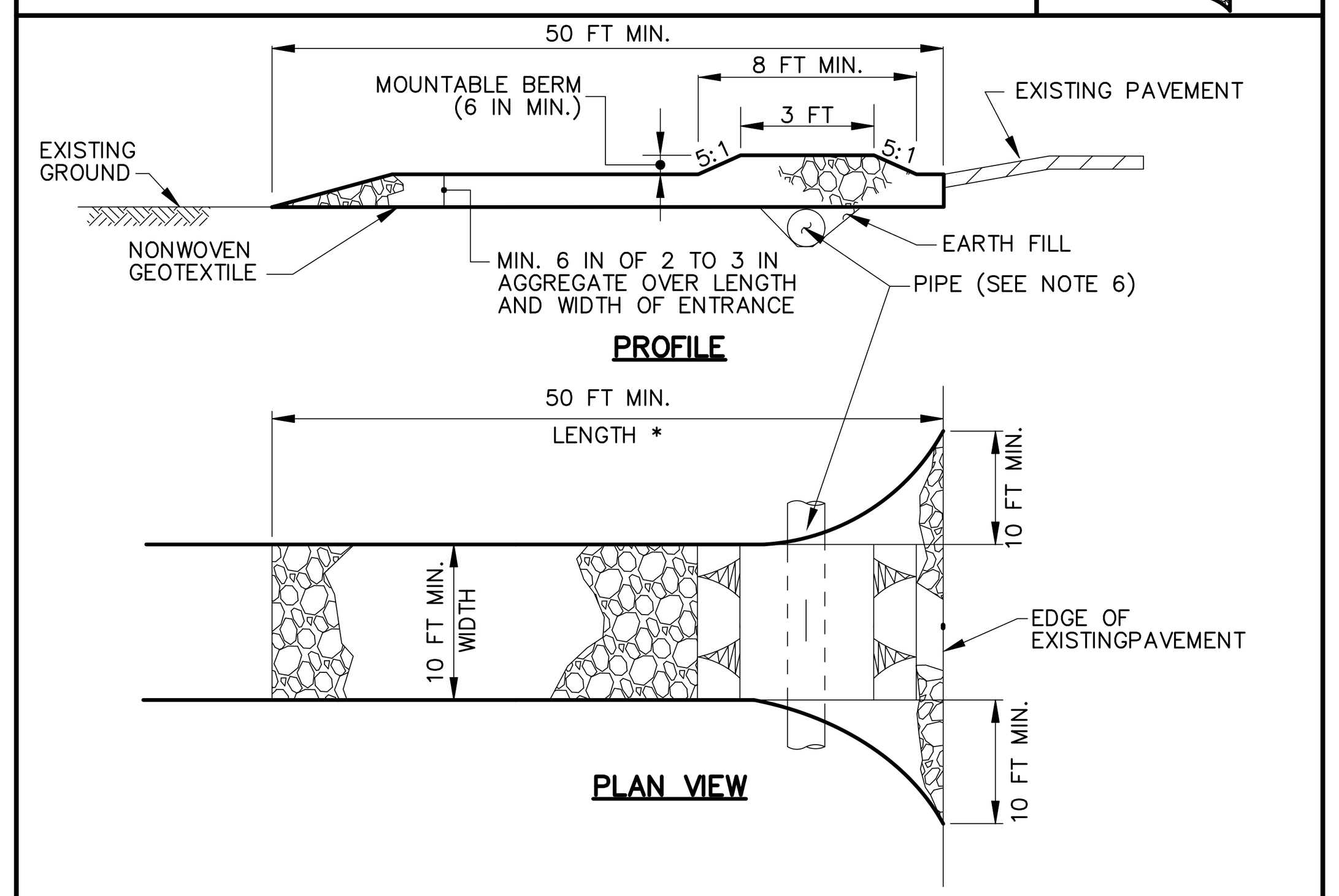
ENGINEER	DESIGNED BY
KCD	MLT
DRAWN BY	DATE
RAE	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
ES-01

RKK21\SYS - \\balsrv06\v2016\2016\16117_SMCMetCom\Hydro\CADD\DWG\ES-01 16117.dwg
Jul 28, 2021 - 5:58am ENV.CTB Plot Scale 1=1 Plot By: ddaye Layout: ES-01

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



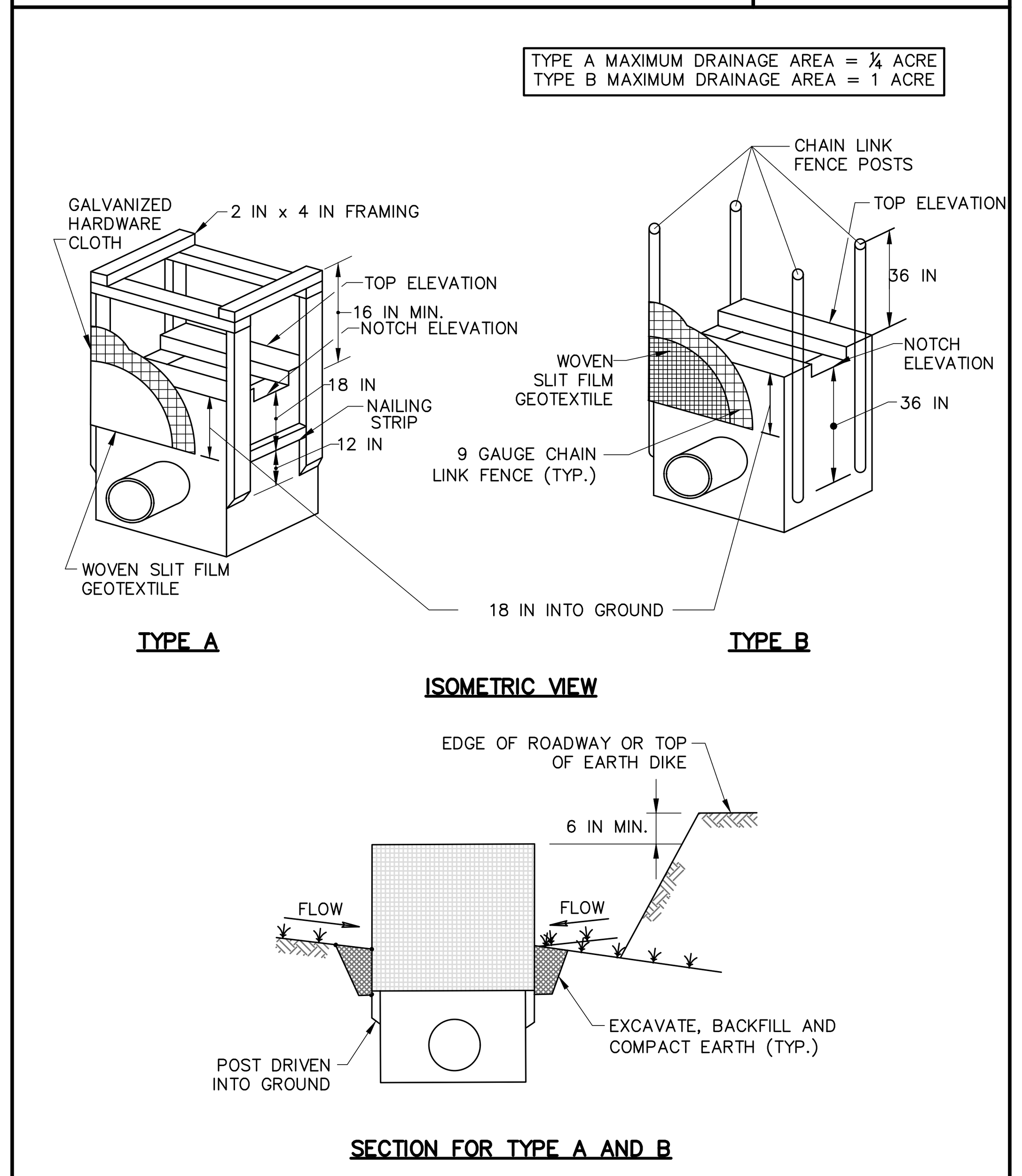
1. CONSTRUCTION SPECIFICATIONS
2. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
4. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
5. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
6. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

CONSTRUCTION SPECIFICATIONS

1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.

   FOR TYPE B, USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION:

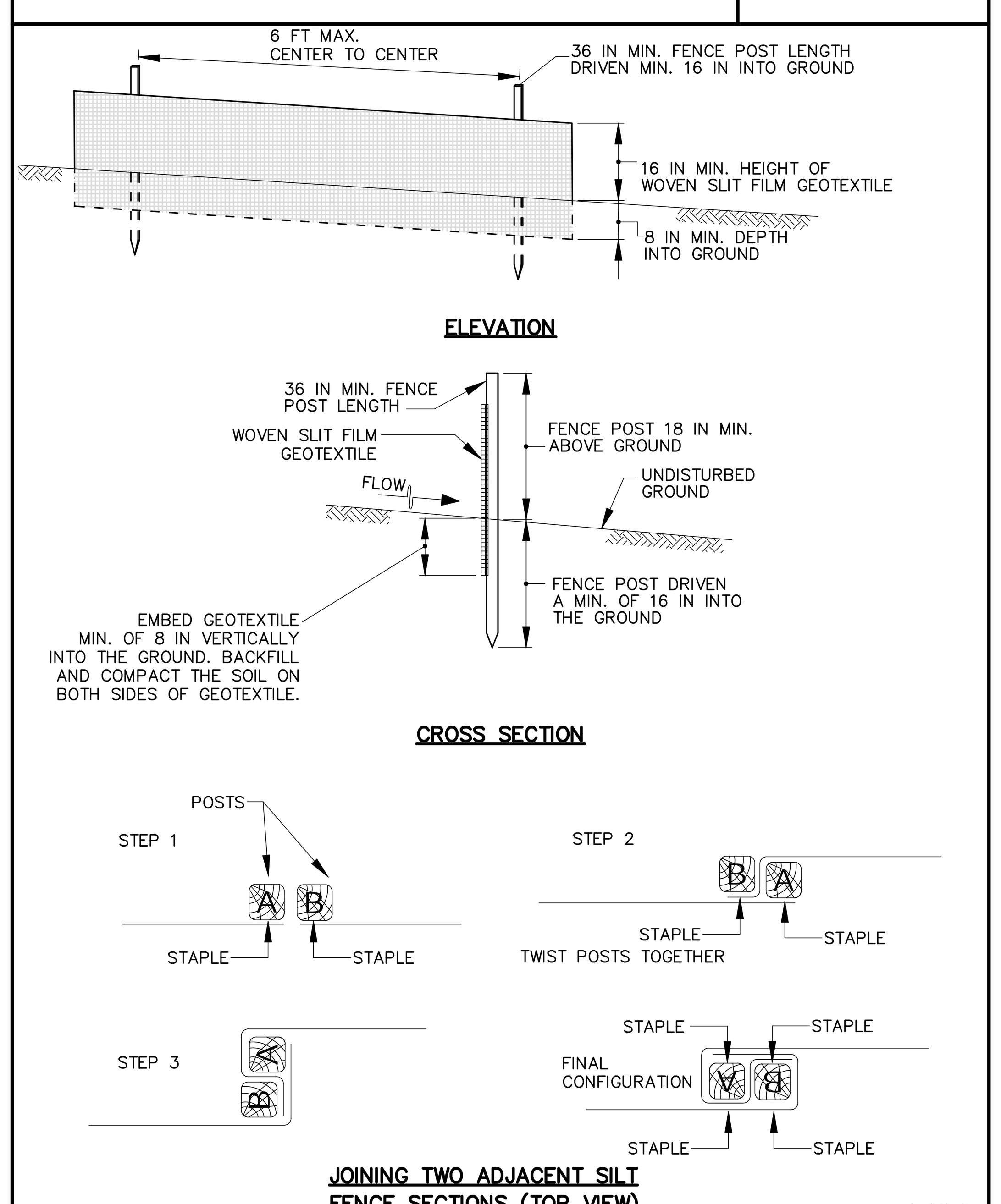
1. THE CONTRACTOR MUST NOTIFY MISS UTILITY AT 1-800-257-7777 A MINIMUM OF FIVE (5) DAYS PRIOR TO START OF CONSTRUCTION. (5 DAYS)
2. PRE-CONSTRUCTION MEETING: NOTIFY ST. MARY'S SOIL CONSERVATION DISTRICT (SCD) AT (301) 475-8402, EXT. 3 AT LEAST FIVE (5) DAYS BEFORE COMMENCING AND LAND DISTURBING ACTIVITY. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSON HAVE MET ON SITE WITH THE ST. MARY'S SOIL CONSERVATION DISTRICT INSPECTOR TO REVIEW THE APPROVED PLANS. (5 DAYS)
2. THE CONTRACTOR SHALL NOTIFY MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) AT (410) 537-3510 AT LEAST 48 HOURS PRIOR TO COMMENCING CLEARING OR GRADING. (2 DAYS)
3. STAKE OUT THE LIMIT OF DISTURBANCE AS SHOWN ON THESE PLANS SO THAT NO WORK WILL OCCUR OUTSIDE THESE AREAS. (DAY 1)
4. CLEAR AND GRUB AS NECESSARY FOR INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES. ALL EROSION AND CONTROL MEASURES SHALL BE PLACED PRIOR TO THE START OF CONSTRUCTION AND REMAIN THROUGHOUT. STABILIZE ALL DISTURBED AREAS AT THE END OF EACH WORK DAY. (DAY 1-2)
5. INSTALL SILT FENCE OR SUPER SILT FENCE AND STABILIZED CONSTRUCTION ENTRANCE IN THE FOLLOWING LOCATIONS, AS SHOWN ON PLANS: LOD AREA 1, SOUTHEAST OF SECONDARY CLARIFIER NO. 1 ALONG FACILITY DRIVEWAY. LOD AREA 2, NORTH OF PINE HILL RUN ROAD AT PATROL ROAD. (DAY 2)
6. GRADE SITE AREA FOR REMOVAL OF TANK, EQUIPMENT, AND ASSOCIATED STRUCTURES. NOTE THAT ANY EXCAVATED MATERIAL MUST GO TO A SITE WITH AN APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN. CONTRACTOR SHALL HAVE PUMP AND FILTER BAG ON SITE TO DEWATER ALL TRENCHES AS NECESSARY. SEE STANDARD UTILITY NOTES FOLLOWING. (DAY 3-7)
7. PREPARE SUBGRADE FOR NEW STRUCTURES AND CONSTRUCT NEW STRUCTURE FOUNDATION AS NEEDED. (DAY 7-14)
8. UPON COMPLETION OF ALL TRENCHING AND SITE GRADING, PERMANENTLY SEED AND MULCH WITH A MINIMUM OF 4 INCHES TOPSOIL ALL DISTURBED AREAS FOR STABILIZATION. (DAY 15-16)
9. CONTRACTOR SHALL CONTACT THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) INSPECTOR TO SCHEDULE A FINAL SITE CLOSEOUT REVIEW. (DAY 17)
10. AFTER OBTAINING PERMISSION FROM THE MDE INSPECTOR, REMOVE ALL SEDIMENT AND EROSION CONTROL DEVICES. PERMANENTLY STABILIZE ANY AREAS RE-DISTURBED DURING REMOVAL WITH A MINIMUM OF 4 INCHES OF TOPSOIL, SEED, AND MULCH. (DAY 17)

STANDARD UTILITY NOTES:

1. REFER TO SHEET C-3 FOR PROPOSED PIPING.
2. CONTRACTOR TO ONLY OPEN UP LENGTH OF TRENCH THAT CAN BE CONSTRUCTED AND BACKFILLED IN ONE WORKING DAY IN PAVED AREAS.
3. CONTRACTOR TO PLACE EXCAVATED MATERIALS IN A DUMP TRUCK AND HAUL TO AN APPROVED WASTE MATERIAL LOCATION.
4. CONTRACTOR TO BACKFILL TRENCH WITH APPROVED MATERIALS AND STABILIZE DISTURBED AREAS THE SAME WORKING DAY.
5. IN AREAS WHERE THE CONSTRUCTION TAKES PLACE OUTSIDE OF THE EXISTING ROADBED, CONTRACTOR TO INSTALL SILT FENCE ALONG THE DOWNHILL SIDE OF THE TRENCH BEFORE BEGINNING CONSTRUCTION AND PLACE EXCAVATED MATERIAL FROM THE TRENCH ON THE UPHILL SIDE.
6. IF DEWATERING OF THE TRENCH IS REQUIRED, CONTRACTOR TO DEWATER BY MEANS OF PUMPING THROUGH A FILTER BAG.
7. CONTRACTOR TO SWEEP STREETS OF ANY DEBRIS OR SEDIMENTS CAUSED BY CONSTRUCTION OPERATIONS AND DISPOSE OF AT AN APPROVED LOCATION.
8. CONTRACTOR TO STABILIZE ALL DISTURBED AREAS WITH SEED & MULCH OR APPROPRIATE STREET REPAIR.

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: ——SF——



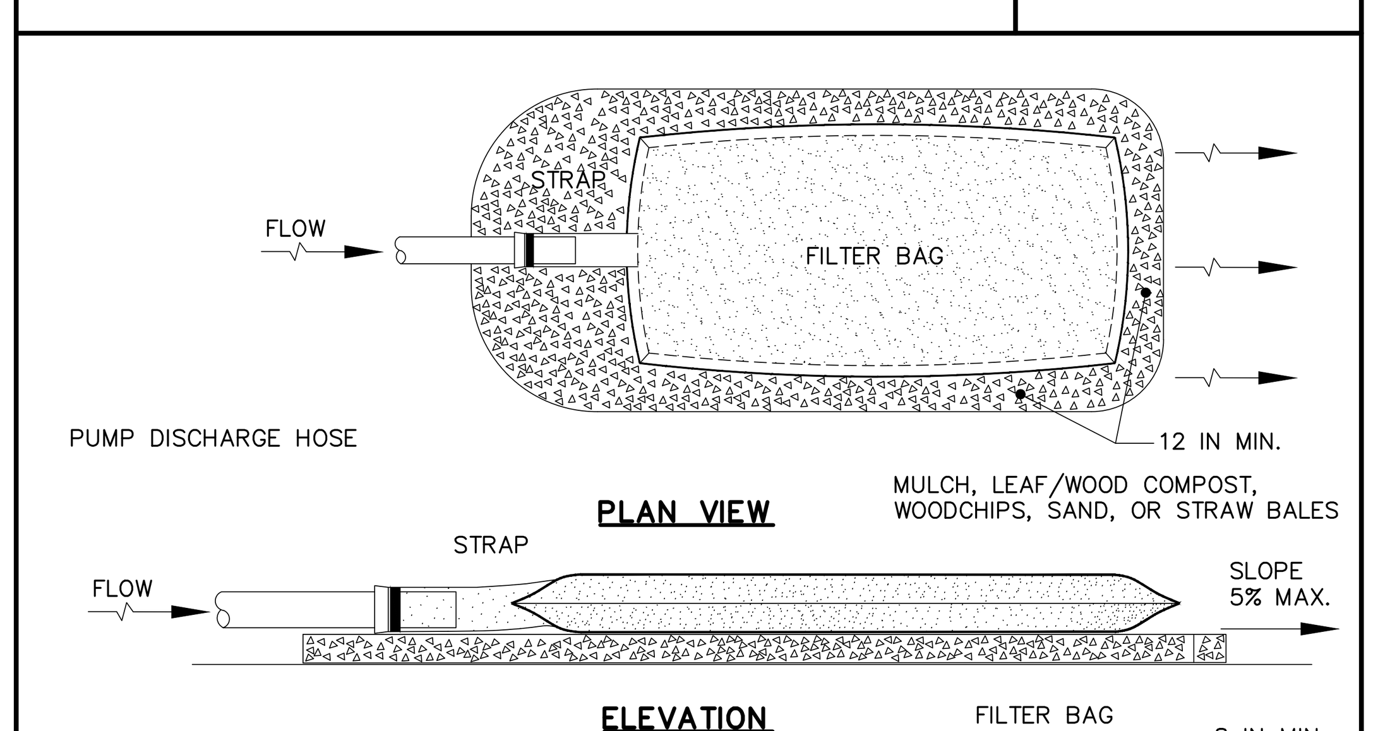
1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: ⊠ FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC⁻¹)	1.2 SEC⁻¹	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

TEMPORARY SEEDING SUMMARY

HARDINESS ZONE: 7B

NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS (INCHES)	FERTILIZER RATE (10-20-20)	LIME RATE
1	BARLEY (Hordeum vulgare)	96 LB/AC 2.2 LB/1000 SF	3/15-5/31; 8/1-9/30	1.0	436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)
2	FOX TAIL MILLET (Setaria italica)	30 LB/AC 0.7 LB/1000 SF	5/16-7/31	0.5	436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)

PERMANENT SEEDING SUMMARY

	HARDINESS ZONE: 7B SEED MIXTURE: 6				FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	
6	Tall Fescue (Lolium arundinaceum)	40	3/1-5/15; 8/15-10/15	1/4-1/2 INCHES	45 LB/AC (1 LB/ 1000 SF)	90 LB/AC (2 LB/ 1000 SF)	90 LB/AC (2 LB/ 1000 SF)	2 TONS/AC (90 LB/ 1000 SF)
	Perennial Ryegrass (Lolium perenne)	25	3/1-5/15; 8/1-10/15	1/4-1/2 INCHES				
	White Clover (Trifolium repens)	5	3/1-5/15; 8/1-10/15	1/4-1/2 INCHES				

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12420, EXPIRATION DATE: 4/20/2023

RK&K
RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

NO.	DESCRIPTION	BY	DATE

REVISIONS

MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

EROSION AND SEDIMENT CONTROL DETAILS

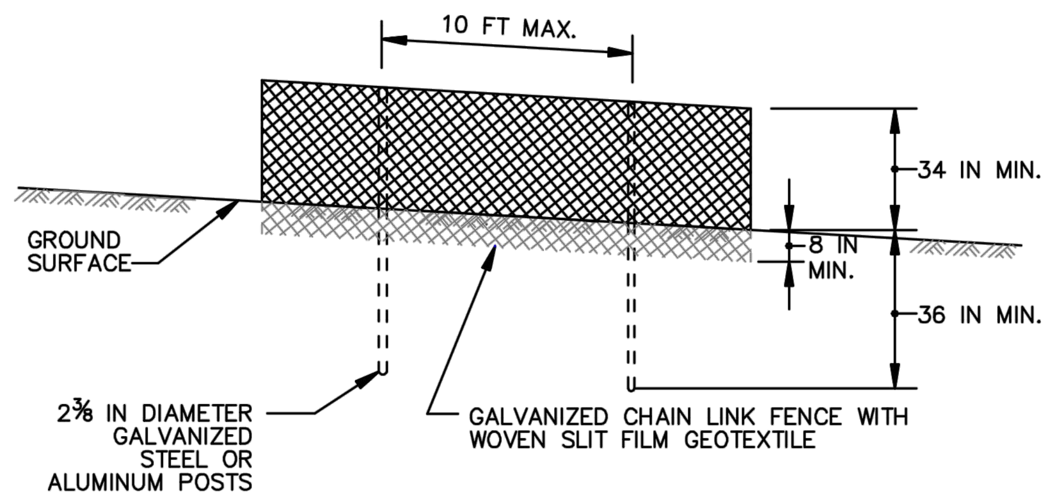
ENGINEER	DESIGNED BY
RJA	MLT
DRAWN BY	DATE
RAE	4/2021

PROJECT NUMBER 8191SR

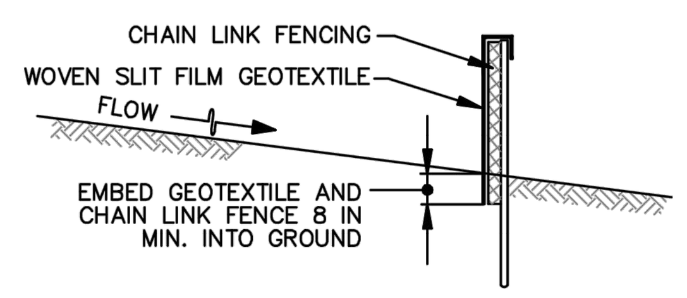
DRAWING NUMBER ES-02

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL
——SSF——



ELEVATION



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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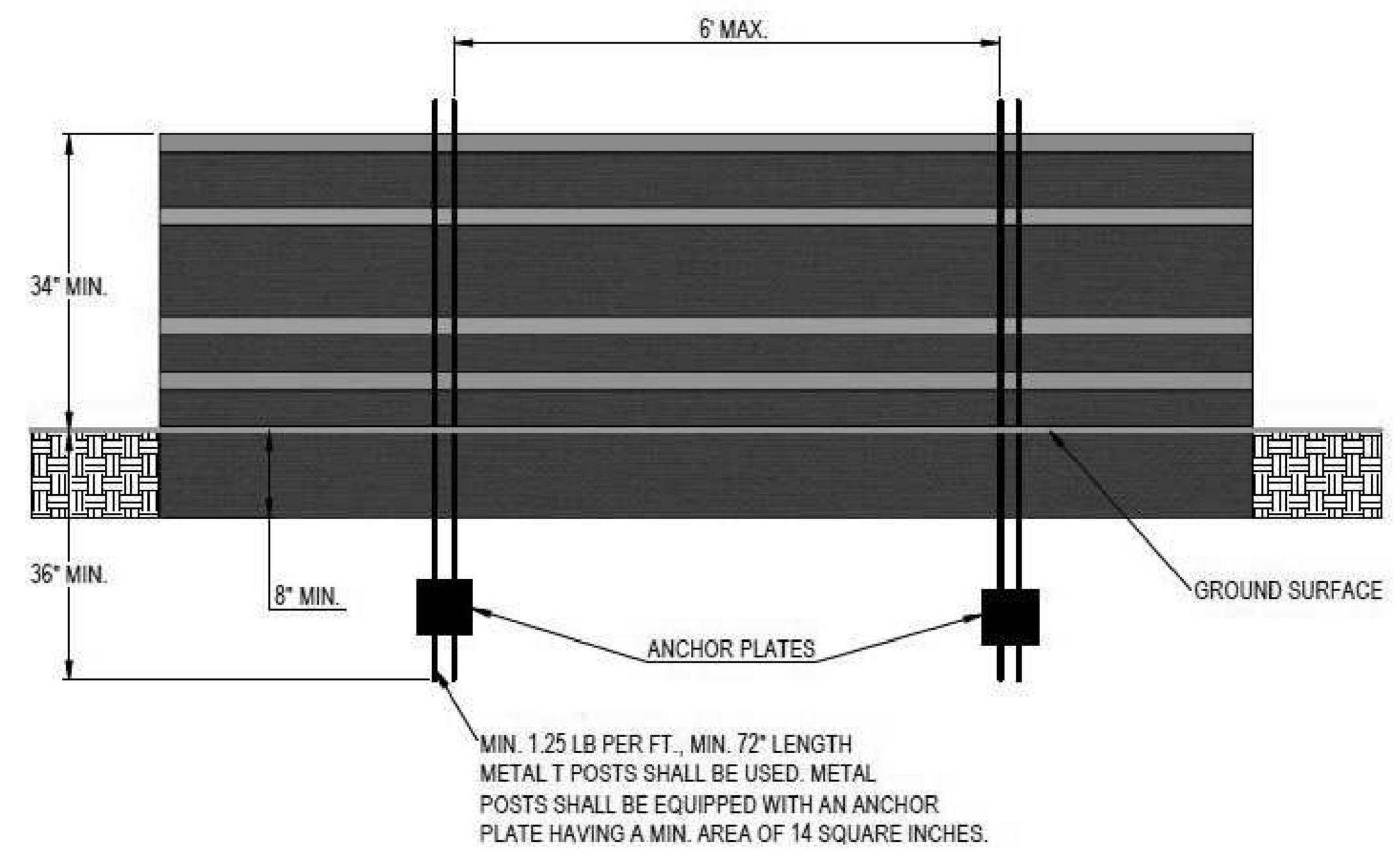

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ENGINEER	DESIGNED BY
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RAE	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
ES–03
SHEET NO. 9 OF 28

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Jul 28, 2021 – 5:59am ENV.CTB Plot Scale 1=1 Plot By: ddaye Layout: ES-03

DESIGN CRITERIA

A. STRUCTURAL DESIGN SHALL BE IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE FOLLOWING CODE, STANDARDS AND SPECIFICATIONS:
   1. INTERNATIONAL BUILDING CODE (IBC) 2018, INCLUDING MODIFICATIONS MADE BY
   2. LOCAL JURISDICTION
   3. ASCE 7–16 MIN. DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
   4. ACI 318–14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
   5. ACI 350–06 CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES.
   6. AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 16th EDITION.
   7. AWS D1.1 STRUCTURAL WELDING CODE – STEEL.

B. SUPERIMPOSED DESIGN LOADS:
   LIVE LOADS (MIN):
   - ROOFS, NON–REDUCIBLE: 30 PSF
   - STAIRS: 100 PSF
   - WALKWAYS AND PLATFORMS: 100 PSF
   - GRATING: 100 PSF
   - LIQUIDS 63 PCF
   - HANDRAILS AND GUARDS: ALONG THE TOP RAIL APPLY IN ANY DIRECTION, 50 PSF OR 200 LBS POINT LOAD, WHICHEVER RESULTS IN GREATER STRESSES.

   DEAD LOADS:
   - CONCRETE: 150 PCF
   - STEEL: 490 PCF
   - WATER: 63 PCF

   ASCE 7–10: RISK CATEGORY = III

   WIND LOADS:
   - ULTIMATE DESIGN SPEED: 120 MPH
   - NOMINAL DESIGN SPEED: 93 MPH
   - EXPOSURE: C
   - EDGE DISTANCE (a): 3.0 FEET
   - WIND VELOCITY PRESSURE (C&C)
   - ZONE 4: 35.12 PSF
   - ZONE 5: 43.37 PSF
   - INTERNAL PRESSURE COEFF.: ± 0.18

   EARTHQUAKE DESIGN DATA:
   - SEISMIC IMPORTANCE FACTOR: Ie=1.25
   - DESIGN SPECTRAL RESPONSE ACCELERATION: Ss=0.127
   - DESIGN SPECTRAL RESPONSE ACCELERATION: S1=0.052
   - DESIGN SPECTRAL RESPONSE ACCELERATION: SdS=0.136
   - DESIGN SPECTRAL RESPONSE ACCELERATION: Sd1=0.083
   - SOIL SITE CLASSIFICATION: TYPE D
   - SEISMIC DESIGN CATEGORY: B
   - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

   SNOW LOADS:
   - GROUND SNOW LOAD (Pg): 30 PSF
   - FLAT ROOF SNOW LOAD (Pf): 25 PSF PLUS DRIFT
   - SNOW EXPOSURE FACTOR (Ce): 1.0
   - SNOW THERMAL FACTOR (Ct): 1.0
   - SNOW LOAD IMPORTANCE FACTOR (Is): 1.10

C. FOUNDATION: SPREAD & WALL FOOTINGS
   - ASSUMED ALLOWABLE BEARING PRESSURE: 2,000 PSF (CONTRACTOR TO CONFIRM ASSUMPTION)
   - ASSUMED INTERNAL ANGLE OF FRICTION: 28 DEGREES
   - ASSUMED UNIT WEIGHT OF SOIL (ABOVE WATER TABLE): 120 PCF
   - ASSUMED UNIT WEIGHT OF SOIL (BELOW WATER TABLE): 58 PCF
   - ASSUMED AT REST EARTH PRESSURE COEFFICIENT: Ko=0.50

   REFER TO EBA ENGINEERING GEOTECHNICAL REPORT DATE SEPT 2019 FOR EARTHWORK REQUIREMENTS.

GENERAL

A. ALL ELEVATIONS ARE REFERENCED TO MSL. SEE CIVIL DWG FOR FINISHED FLOOR ELEV. ALL ELEVATIONS SHOWN ON PLANS ARE REFERENCED TO THIS DATUM UNLESS NOTED.
B. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OR START OF CONSTRUCTION.
C. NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED OR OTHERWISE REDUCED IN STRENGTH WITHOUT THE PRIOR NOTIFICATION OF THE STRUCTURAL ENGINEER.
D. THE GENERAL CONTRACTOR SHALL COORDINATE ALL OTHER DISCIPLINES FOR ANY ITEMS WHICH EFFECT THE STRUCTURAL DRAWINGS.
E. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, GUY WIRES, ETC., WHERE NECESSARY TO ADEQUATELY RESIST ALL CONSTRUCTION LOADS.

DEMOLITION

A. REMOVE EXISTING CONSTRUCTION AS SHOWN ON PLANS. SEE PLANS, SECTIONS, AND DETAILS FOR EXTENT OF STRUCTURE TO BE REMOVED.
B. EXISTING STRUCTURAL FRAMING SHALL REMAIN UNLESS SPECIFICALLY NOTED ON PLAN TO BE REMOVED.
C. IF FIELD CONDITIONS DIFFER FROM THOSE SHOWN ON DRAWINGS, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING.
D. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE EXISTING BUILDING DURING THE COURSE OF CONSTRUCTION AND IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY AREAS WHERE THE STRUCTURE EXHIBITS DISTRESS OR FAILURE.
E. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE LOCATION OF ANY UTILITIES IN THE IMMEDIATE VICINITY OF CONSTRUCTION SO AS TO PREVENT DAMAGE TO THEM. SHOULD ANY DAMAGE TO SUCH UTILITIES OCCUR THE CONTRACTOR SHALL BE REQUIRED TO REPAIR SUCH DAMAGE AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE OWNER.

EXISTING CONSTRUCTION

A. ALL MEMBER SIZES AND DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES SHOWN ON THE DRAWINGS ARE OBTAINED FROM AVAILABLE SOURCES, AND ARE NOT GUARANTEED TO BE TRUE AND EXACT. THE CONTRACTOR SHALL VERIFY THESE DIMENSIONS AND ELEVATIONS BY ACTUAL FIELD MEASUREMENTS PRIOR TO FABRICATION OF ANY MATERIALS AND START OF WORK, AND REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER.
B. THE CONTRACTOR SHALL PROVIDE ALL SHORING, NEEDLING AND BRACING AS REQUIRED TO SUPPORT THE EXISTING STRUCTURE. THE CONTRACTOR SHALL EXAMINE THE EXISTING STRUCTURE TO DETERMINE THE EXTENT OF THE NECESSARY SHORING, NEEDLING. AND UNDERPINNING. THE CAPACITY AND METHOD FOR SHORING AND NEEDLING SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

SUBMISSIONS

IN ADDITION TO SUBMISSIONS AS REQUIRED IN THE SPECIFICATIONS, CONTRACTOR SHALL PROVIDE PLANS, DETAILS AND CALCULATIONS, SIGNED AND SEALED BY A MARYLAND PROFESSIONAL ENGINEER, FOR THE FOLLOWING: HANDRAILS, GRATING, METAL STAIRS, AND PILES.

SUBMITTALS

A. BEFORE SUBMISSION OF SHOP DRAWINGS, THE CONTRACTOR SHALL HAVE DETERMINED AND VERIFIED ALL QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR DATA AND SHALL HAVE COORDINATED EACH SHOP DRAWING WITH OTHER SHOP DRAWINGS AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
B. PRIOR TO SUBMISSIONS, THE CONTRACTOR SHALL STAMP OR PROVIDE A SIMILAR WRITTEN INDICATION THAT THE CONTRACTOR HAS REVIEWED THE SUBMISSION AND IS SATISFIED THE CONTENTS ARE IN COMPLIANCE WITH THE CONTRACT DRAWINGS.
C. REPRINTS OF THE CONTRACT DRAWINGS WILL NOT BE ACCEPTED.
D. NO DIMENSIONAL INFORMATION MAY BE OBTAINED BY DIRECT SCALING OF THE DRAWINGS.
E. ADEQUATE SETS SHALL BE SUBMITTED SO THAT THE ARCHITECT/ENGINEER CAN MAINTAIN ONE RECORD SET AT ALL TIMES.

FOUNDATION

A. ALL FOUNDATIONS SHALL BEAR ON 12" OF #57 STONE OVER UNDISTURBED SOIL WITH AN ALLOWABLE BEARING CAPACITY SPECIFIED.
B. CONCRETE SHALL NOT BE POURED ON FROZEN GROUND.
C. PROVIDE SHEETING AS REQUIRED TO SUPPORT LATERAL LOADS DURING EXCAVATION. SEE GEOTECHNICAL REPORT FOR SOIL PROPERTIES.
D. FILL ALL VOIDS AND REPLACE DISTURBED SOIL WITH LEAN CONCRETE.
E. REFER TO EBA ENGINEERING GEOTECHNICAL REPORT DATED SEPT. 2019 FOR ADDITIONAL INFORMATION.

BACKFILL

DO NOT BACKFILL AGAINST WALLS UNTIL TOP OF WALL IS EITHER TEMPORARILY BRACED OR SUPPORTING SLABS ARE IN PLACE AND HAVE OBTAINED REQUIRED STRENGTH. WHERE BACKFILL IS REQUIRED ON BOTH SIDES OF WALL, BACKFILL BOTH SIDES SIMULTANEOUSLY.

CAST-IN-PLACE REINFORCED CONCRETE

A. ALL CONCRETE WORK SHALL CONFORM TO ACI–350–06 CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES.
B. MINIMUM 28 DAY COMPRESSIVE STRENGTH, MAX WATER TO CEMENTITIOUS MATERIAL RATIOS & AGGREGATE SIZE:
   TANK–MAT, SLAB & WALLS: 5,000 PSI, NORMAL WEIGHT, W/C=0.40, #57 AGGREGATE
   OTHER FOUNDATIONS AND WALLS: 4,000 PSI, NORMAL WEIGHT, W/C=0.45, #57 AGGREGATE
C. ALL FOUNDATION AND EXPOSED CONCRETE SHALL INCLUDE 5% AIR ENTRAINMENT, UNLESS NOTED OTHERWISE.
D. SLUMP 3" MAX FOR FOUNDATIONS & 4" MAX FOR WALLS, PRIOR TO MID RANGE WATER REDUCER (MRWR).
E. REINFORCING STEEL SHALL CONFORM TO ASTM A–615 GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A–185.
F. TERMINATE ALL DISCONTINUED TOP BARS WITH 90 DEGREE STANDARD HOOK UNLESS OTHERWISE NOTED.
G. CONTINUOUS BOTTOM BARS SHALL BE SPLICED AT CENTERLINE OF SUPPORTS. CONTINUOUS TOP BARS SHALL BE SPLICED AT MIDSPAN.
H. AT CHANGES IN DIRECTION OF CONCRETE WALLS, STRIP FOOTINGS, BEAMS, TIE–BEAMS AND BOND BEAMS, PROVIDE CORNER BARS AT SAME SIZE AND SPACING AS HORIZONTAL STEEL.
I. CHAMFER ALL EDGES OF BEAMS, COLUMNS, HAUNCHES, WALLS EQUIPMENT PADS AND SLABS EXPOSED TO VIEW ¾" UNLESS OTHERWISE NOTED.
J. SEE SPECIFICATIONS FOR WATERPROOFING MEMBRANES.

REINFORCEMENT

A. ALL DEVELOPMENT AND SPLICES OF REINFORCEMENT SHALL CONFORM TO THE PROVISIONS OF ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318–LATEST EDITION).
B. REINFORCING STEEL SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO CURRENT REQUIREMENTS OF ASTM A615 GRADE 60. ALL HOOKS SHALL BE STANDARD HOOKS, UNLESS OTHERWISE NOTED.
C. WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A185 (LATEST EDITION).
D. ALL WELDED WIRE FABRIC SHALL BE SPLICED SO THAT THE OVERLAP OF THE OUTERMOST CROSS WIRES OF EACH ADJOINING SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRES PLUS TWO INCHES, UNLESS NOTED OTHERWISE.
E. REINFORCING BAR SUPPORTS AND SPACERS SHALL CONFORM TO ACI 315–(LATEST EDITION) DETAILING MANUAL.
F. SHOP DRAWINGS SHOWING ALL NECESSARY SECTIONS AND DETAILS FOR THE PROPER POSITIONING OF ALL REINFORCING STEEL SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW BEFORE FABRICATION OR PLACEMENT OF THE STEEL.
G. ALL REINFORCEMENT SHALL HAVE 3" COVER UNLESS OTHERWISE NOTED.

WATERPROOFING

FOR LIMITS OF WATERPROOFING FOR EXTERIOR WALLS, SEE STRUCTURAL SECTIONS. MEMBRANE WATERPROOFING SHALL BE AS SPECIFIED IN SECTION 07100.

WATERSTOP

A. PROVIDE WATERSTOPS IN ALL JOINTS BETWEEN DRY AREAS AND SOURCES OF LIQUID, BETWEEN DRY AND LIQUID AREAS. WATERSTOPS SHALL FORM A CONTINUOUS WATERTIGHT DIAPHRAGM TO PREVENT LEAKAGE.
B. TERMINATE VERTICAL WATERSTOPS THREE INCHES BELOW TOP OF CONCRETE WALLS IN OPEN TANKS, AT THE UNDERSIDE OF ELEVATED FRAMED SLABS THAT ARE ABOVE MAXIMUM WATER SURFACE ELEVATIONS AND ABOVE FINISHED GRADE IN EXTERIOR FOUNDATION WALLS.
C. USE FACTORY–MADE CROSSES, TEES AND ELLS AT ALL CORNERS AND INTERSECTIONS.
D. INSTALL WATERSTOPS IN CONTINUOUS LENGTHS TO MINIMIZE FIELD SPLICES.
E. PROVIDE 2–INCH MINIMUM CLEARANCE BETWEEN WATERSTOPS AND REINFORCING STEEL AND OTHER EMBEDDED ITEMS.
F. SECURE WATERSTOPS IN POSITION WITH WIRE TIES TO ADJACENT REINFORCING STEEL ON BOTH SIDES, ALONG EACH EDGE AS SPECIFIED.
G. PROVIDE HYDROPHILIC WATERSTOPS ONLY WHERE INDICATED ON THE DRAWINGS.
H. PROTECT EXPOSED WATERSTOP FROM DAMAGE.

AUGERED CAST IN PLACE (ACIP) PILES FOUNDATION SYSTEM

A. EXCAVATION, PREPARATION OF SUBGRADE, AND FOUNDATION CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT BY EBA ENGINEERING DATED SEPT. 2019.
B. ALL ORGANIC MATERIALS AND CONSTRUCTION DEBRIS SHALL BE REMOVED IN REGIONS OF ALL FOUNDATIONS.
C. THE BOTTOMS OF ALL EXTERIOR GRADE BEAMS SHALL BE 2'–6" MINIMUM BELOW FINISHED GRADE.
D. THE CONTRACTOR SHALL SAFEGUARD AND PROTECT ALL EXCAVATIONS. ALL EXCAVATIONS SHALL BE KEPT FREE OF WATER.
E. CAST–IN–PLACE CONCRETE PILES SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS. STEEL REINFORCING SHALL CONFORM WITH ASTM A615, GRADE 60.
F. ACIP PILES SHALL BE 16" DIAMETER AND SHALL HAVE A MINIMUM CAPACITY OF 75 TONS COMPRESSION AND 12 KIPS MIN UPLIFT EACH. LOAD TESTS SHALL BE PERFORMED TO A LOAD OF 200% DESIGN LOAD (APPROXIMATELY 150 TONS) AS NOTED IN THE SPECIFICATIONS PRIOR TO THE INSTALLATION OF PRODUCTION PILES.
G. TEST PILES SHALL BE DRIVEN BOTH WHERE INDICATED ON THE DRAWINGS AND AS DIRECTED BY THE GEOTECHNICAL REPORT AND SPECIFICATIONS.
H. ACIP PILES SHALL BE SPACED 10'–0" CENTER TO CENTER MAX.
I. THE DEPTH OF THE ACIP PILE SHALL BE DETERMINED BY THE ACIP PILE MANUFACTURER. THE DEPTH REQUIRED IS ESTIMATED TO BE 50'–0" BELOW TANK SLAB.
J. INSTALLATION OF THE ACIP PILES SHALL BE PERFORMED BY A CONTRACTOR EXPERIENCED WITH ACIP PILES. DURING INSTALLATION.
K. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ALL LOCATIONS OF TRENCHES, PITS, CONDUITS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS.
L. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE ACIP PILES. THE PILES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER. REFER TO THE PLANS, GEOTECHNICAL REPORT AND SPECIFICATION 13631 FOR DESIGN CRITERIA. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A MARYLAND PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION.

STRUCTURAL STEEL

A. ALL STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS
B. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
   - STRUCTURAL STEEL W–SHAPES: A992 HAVING A MINIMUM YIELD STRENGTH OF 50 KSI.
   - STRUCTURAL STEEL CHANNELS, ANGLES, BARS & PLATES: A36 HAVING A MINIMUM YIELD STRENGTH OF 36 KSI.
   - SQUARE AND RECTANGULAR TUBING: A500, GRADE B HAVING MINIMUM YIELD STRENGTH OF 46 KSI.
   - ROUND PIPE: A53, GRADE B HAVING A MINIMUM YIELD STRENGTH OF 35 KSI.
C. BOLTS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS: HIGH STRENGTH BOLTS: (SS) F593 ANCHOR BOLTS: A307 A36
D. ALL BOLTS SHALL BE 3/4" DIAMETER, OPEN HOLES 13/16" DIAMETER, UNLESS OTHERWISE SHOWN OR NOTED.
E. WELDING SHALL BE IN ACCORDANCE WITH AWS STRUCTURAL WELDING CODE (AWS D1.1) AND SHALL BE PERFORMED BY CERTIFIED WELDERS. ALL WELDS SHALL BE MADE WITH AWS A5.1 E–70XX ELECTRODES.
F. ALL SHOP CONNECTIONS SHALL BE HIGH STRENGTH BOLTED OR WELDED.
G. ALL FIELD CONNECTIONS SHALL BE HIGH STRENGTH BOLTED EXCEPT WHERE DETAILS INDICATE WELDING.
H. NO PENETRATIONS ARE PERMITTED THROUGH STRUCTURAL STEEL MEMBERS UNLESS INDICATED ON STRUCTURAL DRAWINGS OR APPROVED BY ARCHITECT/ENGINEER.
I. APPROVAL OF THE ARCHITECT/ENGINEER SHALL BE MANDATORY FOR THE USE OF CUTTING TORCH IN THE FIELD.
J. ALL GROUT UNDER STEEL PLATES SHALL BE NON–SHRINK "PRE–MIX" TYPE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI.
K. FOR ALL MISCELLANEOUS STEEL CONSTRUCTION NOT SHOWN ON STRUCTURAL DRAWINGS, SEE THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
L. STRUCTURAL STEEL SHALL BE INSPECTED IN THE FIELD BY AN INDEPENDENT TESTING AGENCY APPROVED BY THE ARCHITECT AND PAID FOR BY THE CONTRACTOR.
M. ALL STEEL & CONNECTIONS EXPOSED TO WEATHER SHALL BE HOT–DIPPED GALVANIZED ACCORDING TO ASTM A123.
N. ALL STEEL DESIGNATED AS "STAINLESS STEEL" SHALL BE IN ACCORDANCE WITH ASTM A276, TYPE 304.
O. ALL STRUCTURAL STEEL SHALL BE COATED WITH SYSTEM NUMBER 10 PER SPECIFICATION SECTION 09900.

ALUMINUM STRUCTURAL SHAPES

A. ALUMINUM STRUCTURAL SHAPES SHALL BE ASTM B–308, 6061–T6.
B. ALLOWABLE TOLERANCES FOR MILLED ALUMINUM STANDARD STRUCTURAL SHAPES SHALL BE IN ACCORDANCE WITH ANSI H35.2. COMPLY WITH THE ALUMINUM DESIGN MANUAL (ADM–1) LATEST EDITION.
C. ALL RECTANGULAR CUTOUTS IN GRATING SHALL BE MADE TO THE NEXT BEARING BAR BEYOND THE PENETRATION WITH A CLEARANCE NOT TO EXCEED BEARING BAR SPACING.
D. USE GRATING CLAMPS TO SECURE GRATING TO SUPPORTING MEMBERS. GRATING CLAMPS TO BE A TYPE TO ALLOW FOR EASY REMOVAL OF GRATING.
E. ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL BE GIVEN A HEAVY COAT OF ALKALI RESISTANT BITUMINOUS PAINT OR OTHER COATING PROVIDING EQUIVALENT PROTECTION BEFORE INSTALLATION.
F. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF ALL ALUMINUM STRUCTURES, INCLUDING HANDRAILS, WALKWAYS, GRATING AND STAIRS. CONTRACTOR SHALL SUBMIT SIGNED AND SEALED PLANS. DESIGN SHALL BE IN ACCORDANCE WITH IBC.
G. "2" DIAMOND PLATE" SHALL BE ALUMINUM 2" DIAMOND BACK PLANK BY McNICHOLS OR APPROVED EQUAL. PLANKS SHALL BE 12" WIDE WITH A CAPACITY OF 250 PSF.

LEAKAGE TESTING OF LIQUID STRUCTURES

A. PRIOR TO TESTING, CLEAN EXPOSED SURFACES BY THOROUGHLY HOSING AND REMOVING ALL LOOSENED MATTER AND WASH FROM BOTH SIDES OF STRUCTURE.
B. CONDUCT TESTING BEFORE BACKFILL IS PLACED AGAINST WALLS AND AFTER ALL CONCRETE HAS ATTAINED THE SPECIFIED COMPRESSIVE STRENGTH, BUT NOT LESS THAN 7 DAYS AFTER PLACEMENT OF CONCRETE.
C. FILL STRUCTURE TO BE SUBJECTED TO LEAKAGE TEST WITH WATER TO THE NORMAL OPERATING LEVEL OR MAXIMUM ANTICIPATED GROUNDWATER LINE, PLUS ONE (1) FOOT.
D. IMMEDIATELY REPAIR ANY VISIBLE LEAKS WHICH APPEAR DURING FILLING BEFORE CONTINUING. AFTER THE STRUCTURE HAS BEEN KEPT FULL FOR 48 HOURS, CLOSE ALL THE VALVES AND GATES TO THE STRUCTURE AND MEASURE THE CHANGE IN WATER SURFACE EACH DAY FOR A FIVE (5) DAY PERIOD.
E. TEST EVALUATION CRITERIA:
   1. THE DROP IN WATER SURFACE IN 24–HOUR PERIOD WITH BASIN FULL IS LESS THAN 1/20 OF 1 PERCENT OF NORMAL VOLUME OF LIQUID CONTAINED IN THE STRUCTURE, AFTER ACCOUNTING FOR EVAPORATION AND PRECIPITATION, AND DAMP SPOTS OR SEEPAGE ARE NOT PRESENT ON WALLS OR OTHER AREAS EXPOSED TO VIEW.
   2. DETERMINE EVAPORATION BY FLOATING AN EVAPORATION PAN IN STRUCTURE DURING THE TEST PERIOD.
F. EXCESSIVE LEAKAGE AND LEAKAGE TEST FAILURE CRITERIA:
   1. IF THE DROP IN THE WATER SURFACE EXCEEDS THE TEST EVALUATION CRITERIA OR IF DAMP SPOTS OR SEEPAGE IS VISIBLE ON THE SURFACES EXPOSED DURING TESTING.
G. IF LEAKAGE IS EXCESSIVE, OR IF DAMP SPOTS AND OBSERVED LEAKAGE IS PRESENT ON EXPOSED SURFACES, DRAIN THE WATER–HOLDING STRUCTURE, EPOXY INJECT ALL CRACKS, PATCH SURFACE AREAS AND DAMP SPOTS PREVIOUSLY MARKED, AND MAKE NECESSARY REPAIRS, THEN RETEST THE BASIN.
H. MAKE ALL REPAIRS AND ADDITIONAL TESTS AT NO ADDITIONAL COST TO THE OWNER.
I. APPLY SPECIFIED COATINGS ONLY AFTER ACCEPTANCE OF LEAKAGE TEST BY ENGINEER.

ABBREVIATIONS

∠	ANGLE
@	AT
℄	CENTERLINE
ø	DIAMETER
PL	PLATE
ADD'L	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
ALUM	ALUMINUM
ARCH	ARCHITECTURAL
BOT	BOTTOM
BRG	BEARING
CIP	CAST–IN–PLACE
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONT	CONTINUOUS
COORD	COORDINATE
DEG	DEGREE
DIA	DIAMETER
DIM	DIMENSION
DTL	DETAIL
DWG(S)	DRAWING(S)
EA	EACH
EE	EACH END
EF	EACH FACE
ELEV	ELEVATION
EMBED	EMBED(MENT)
EQ	EQUAL
EX	EXISTING
EW	EACH WAY
EXP	EXPANSION
FF	FINISHED FLOOR
FTG	FOOTING
FV	FIELD VERIFY
FRP	FIBER REINFORCED PLASTIC
GALV	GALVANIZED
HD GALV	HOT–DIPPED GALVANIZED
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
JT	JOINT
KSI	KIPS/SQUARE INCH
LLH	LONG LEG HORIZONTAL
LONG	LONGITUDINAL
MANUF	MANUFACTURER
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MRWR	MID RANGE WATER REDUCER
MSL	MEAN SEAL LEVEL
NO	NUMBER
OC	ON CENTER
PCF	POUNDS/CUBIC FOOT
PLWD	PLYWOOD
PSF	POUNDS/SQUARE FOOT
PSI	POUNDS/SQUARE INCH
REINF	REINFORCEMENT
RTU	ROOF TOP UNIT
SCH	SCHEDULE
SECT	SECTION
SF	SQUARE FOOT
SIM	SIMILAR
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
T&B	TOP & BOTTOM
T&G	TONGUE & GROOVE
TOS	TOP OF SLAB
TS	TUBE STEEL
TRANSV	TRANSVERSE
TYP	TYPICAL
T/RET WALL	TOP OF RETAINING WALL
T/WALL	TOP OF WALL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/C	WATER TO CEMENT RATIO
W/IN	WITHIN
W/O	WITHOUT
WWF	WELDED WIRE FABRIC

ALBRECHT ENGINEERING INC
3500 BOSTON STREET
SUITE 329
BALTIMORE, MD 21224
410-522-5870

STATE OF MARYLAND · RACHEL LYNNE ALBRECHT · No. 23393 · PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

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RK&K
RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
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NO.	DESCRIPTION	BY	DATE

REVISIONS

MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

STRUCTURAL NOTES

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RLA	CCC
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SPECIAL INSPECTION

SPECIAL INSPECTIONS AND TESTING OF STEEL CONSTRUCTION (IBC 1705.2)

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. INSPECTION OF HIGH-STRENGTH BOLTING:		
A. SNUG-TIGHT JOINTS.	–	X
B. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	–	X
C. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X	–
D. INSPECTION TASKS PRIOR TO BOLTING – SEE TABLE N5.6-1 IN AISC 360	–	X
E. INSPECTION TASKS DURING BOLTING – SEE TABLE N5.6-2 IN AISC 360	–	X
F. INSPECTION TASKS AFTER BOLTING – SEE TABLE N5.6-3 IN AISC 360	–	X
2. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:		
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	–	X
B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	–	X
C. MANUFACTURER'S CERTIFIED TEST REPORTS.	–	X
3. INSPECTION OF WELDING:		
A. INSPECTION TASKS PRIOR TO WELDING – SEE TABLE N5.4-1 IN AISC 360	–	X
B. INSPECTION TASKS DURING WELDING – SEE TABLE N5.4-2 IN AISC 360	–	X
C. INSPECTION TASKS AFTER WELDING – SEE TABLE N5.4-3 IN AISC 360	–	X
D. FOR RISK CATEGORY III STRUCTURES, PERFORM ULTRASONIC TESTING IN ACCORDANCE WITH AWS D1.1/D1.1M ON ALL CJP GROOVE WELDS IN BUTT, T- AND CORNER JOINTS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING WITH MATERIALS 5/16" THICK OR GREATER.	–	X
E. FOR RISK CATEGORY II STRUCTURES, PERFORM ULTRASONIC TESTING IN ACCORDANCE WITH AWS D1.1/D1.1M ON 10% OF CJP GROOVE WELDS IN BUTT, T- AND CORNER JOINTS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING WITH MATERIALS 5/16" THICK OR GREATER.	–	X
F. FOR THERMALLY CUT SURFACES OF ACCESS HOLES, PERFORM MAGNETIC PARTICLE TESTING OR PENETRANT TESTING IN ACCORDANCE WITH AWS D1.1/D1.1M WHERE THE FLANGE THICKNESS OR WEB THICKNESS EXCEEDS 2 INCHES FOR BUILT-UP SHAPES. ANY CRACK SHALL BE DEEMED UNACCEPTABLE.	–	X
4. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:		
A. DETAILS SUCH AS BRACING AND STIFFENING.	–	X
B. MEMBER LOCATIONS.	–	X
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	–	X
5. INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT – SEE TABLE N6.1 IN AISC 360	–	X

SPECIAL INSPECTIONS AND TESTING OF DRIVEN PILES DEEP FOUNDATIONS (IBC 1705.7)

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS.	X	–
2. DETERMINE CAPACITIES OF TEST ELEMENTS AND CONDUCT ADDITIONAL LOAD TESTS, AS REQUIRED.	X	–
3. INSPECT DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	X	–
4. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT.	X	–
5. FOR STEEL ELEMENTS, PERFORM ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.2.	–	–
6. FOR CONCRETE ELEMENTS AND CONCRETE-FILLED ELEMENTS, PERFORM TESTS AND ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.3.	–	–
7. FOR SPECIALTY ELEMENTS, PERFORM ADDITIONAL SPECIAL INSPECTIONS AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.	–	–

SPECIAL INSPECTIONS AND TESTING OF CONCRETE CONSTRUCTION (IBC 1705.3)

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	–	X
2. REINFORCING BAR WELDING:		
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706;	–	X
B. INSPECT SINGLE PASS FILLET WELDS, MAXIMUM 5/16"; AND	–	X
C. INSPECT ALL OTHER WELDS.	X	–
3. INSPECT ANCHORS CAST IN CONCRETE.	–	X
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.		
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	–
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	–	X
5. VERIFY USE OF REQUIRED DESIGN MIX.	–	X
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	–
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	–
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	–	X
9. INSPECT PRESTRESSED CONCRETE FOR:		
A. APPLICATION OF PRESTRESSING FORCES, AND	X	–
B. GROUTING OF BONDED PRESTRESSING TENDONS.	X	–
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	–	X
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	–	X
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	–	X

SPECIAL INSPECTIONS AND TESTING OF SOILS (IBC 1705.6)

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	–	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	–	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	–	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	–
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	–	X

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3500 BOSTON STREET
SUITE 329
BALTIMORE, MD 21224
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RK&K
RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
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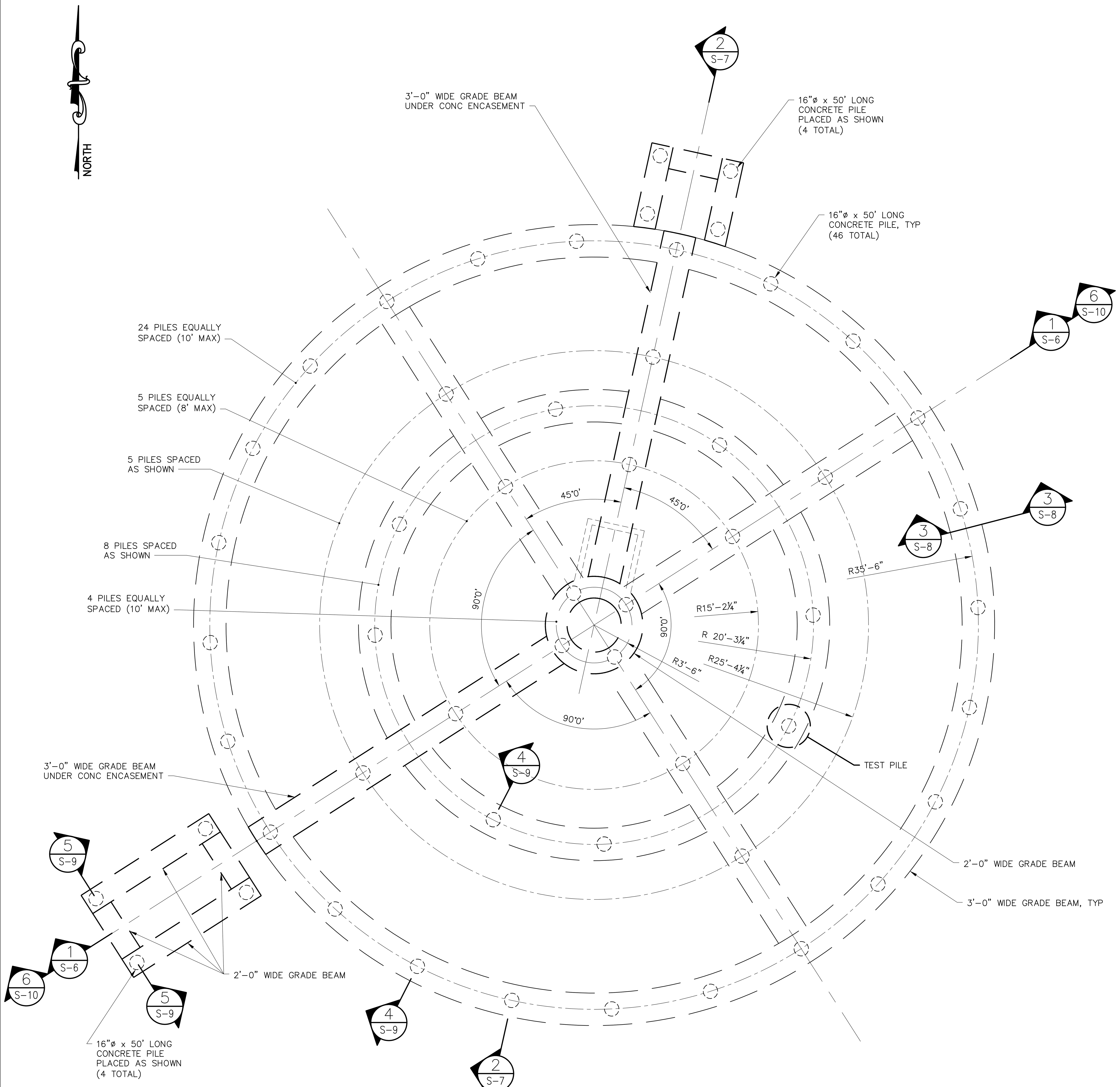

NOTES:

1. ACIP PILES ARE A DELEGATED DESIGN BY THE CONTRACTOR.
2. REFER TO GEOTECHNICAL ENGINEER REPORT BY EBA ENGINEERING DATED SEPT. 2019, GENERAL NOTES AND SPECIFICATIONS FOR FOUNDATIONS RECOMMENDATIONS.

SECONDARY CLARIFIER NO. 1 - PILE LOCATION AND GRADE BEAM LAYOUT

SCALE: 3/16"=1'-0"

0 4'-0" 8'-0" 12'-0"
SCALE 3/16"=1'-0" AT ORIGINAL SIZE

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3500 BOSTON STREET
SUITE 329
BALTIMORE, MD 21224
410-522-5870

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PILE LOCATION AND GRADE BEAM LAYOUT

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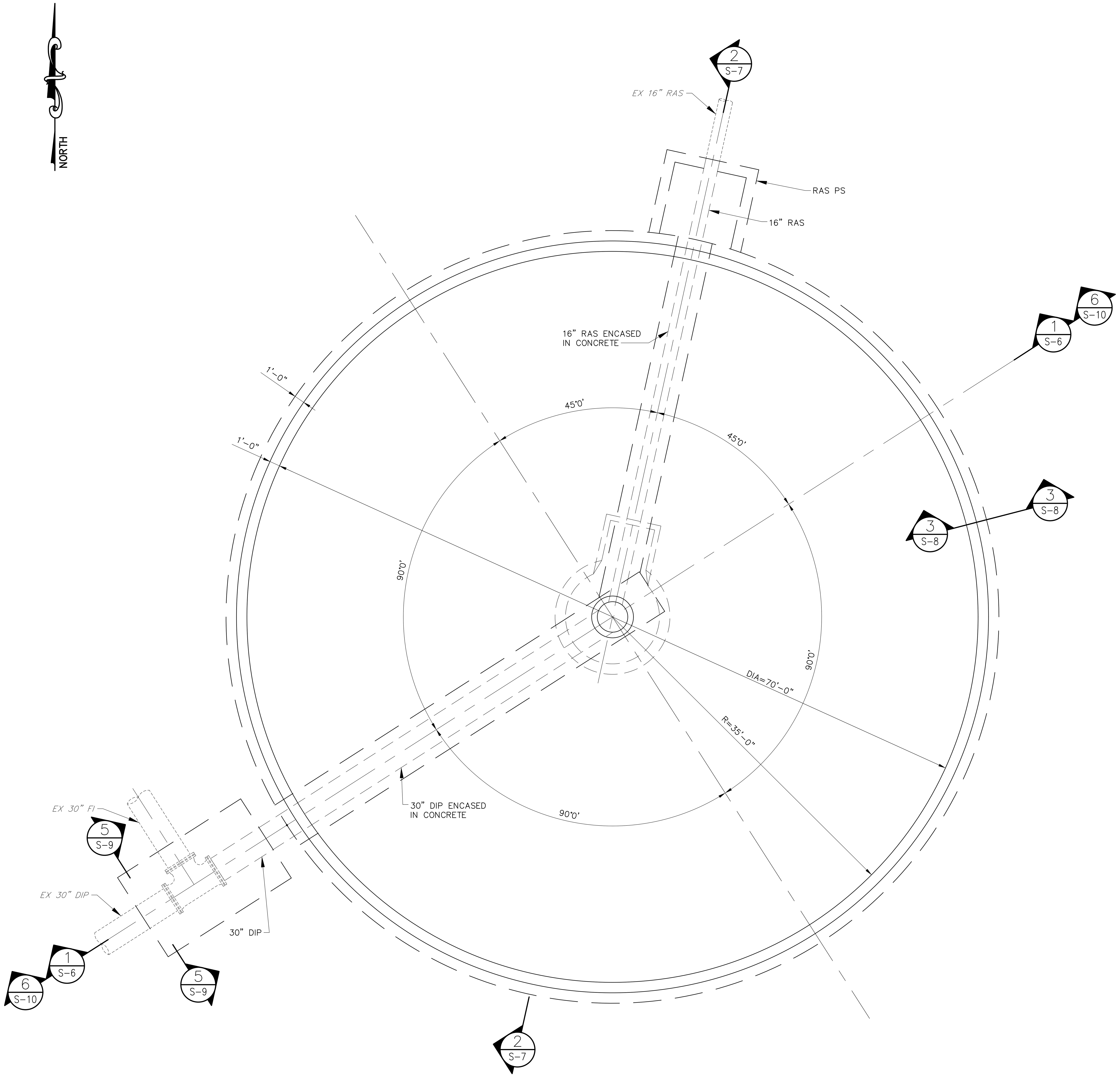
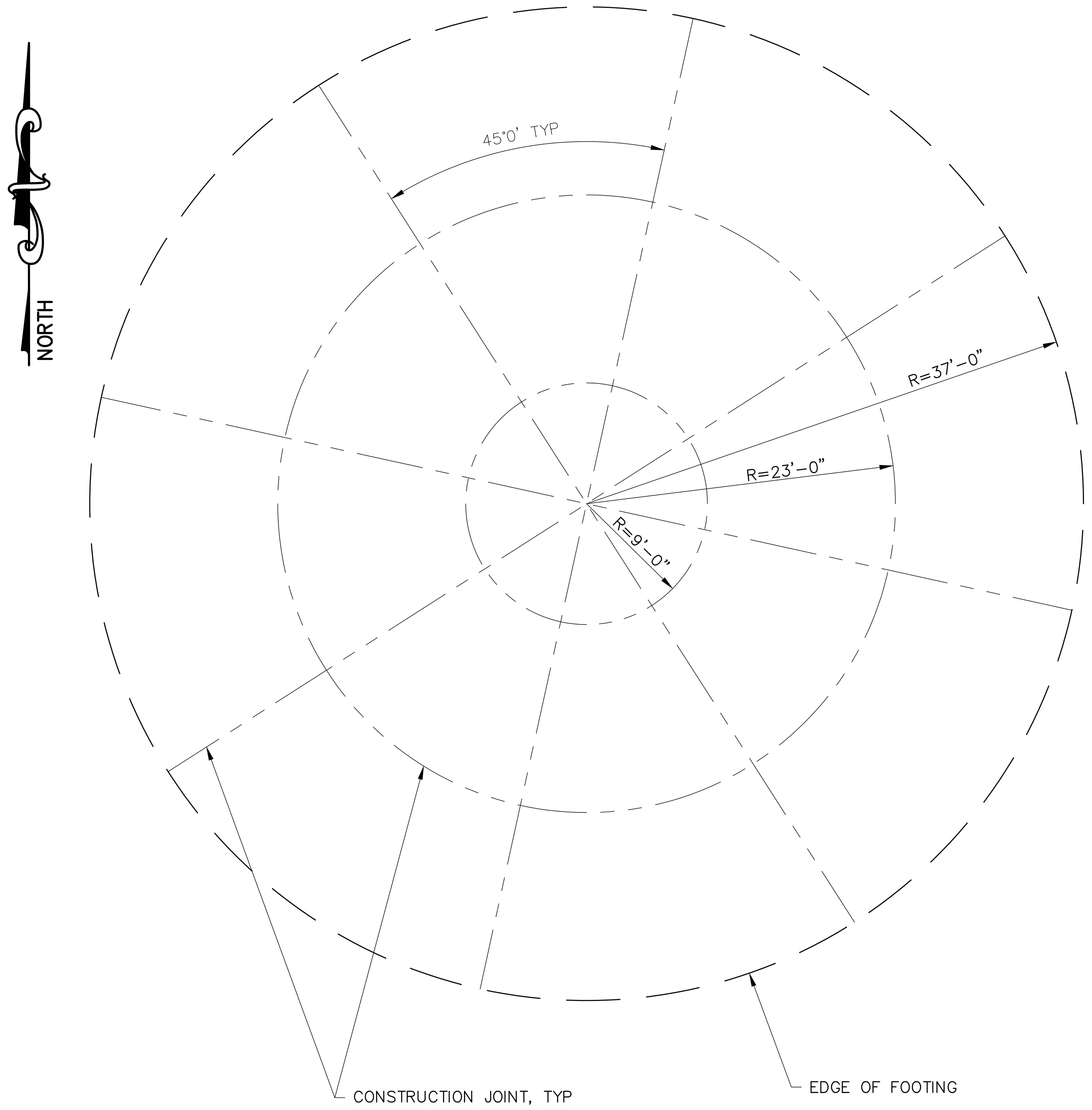
SHEET NO. 12 OF 28



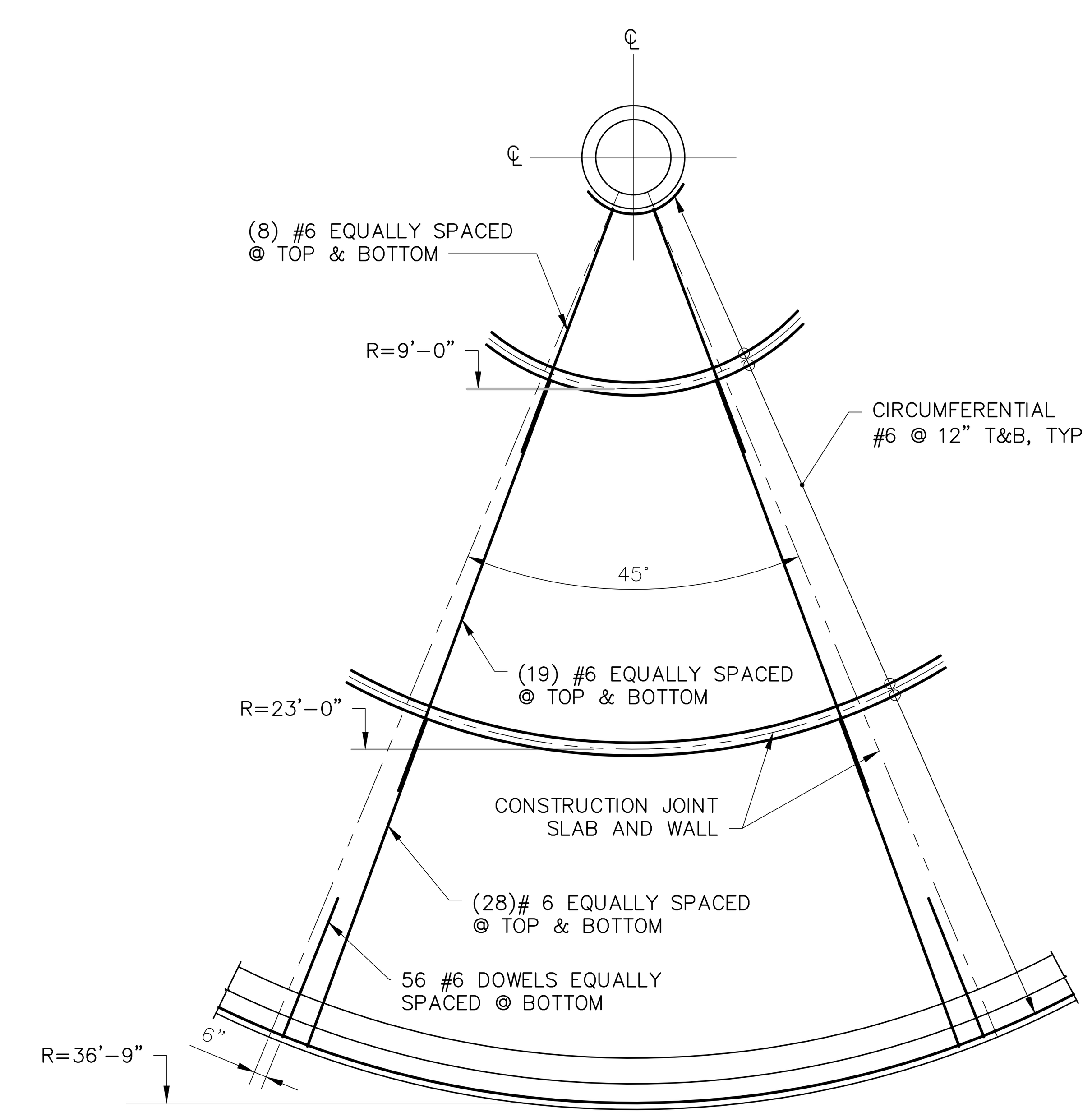
SECONDARY CLARIFIER NO. 1 - FOUNDATION PLAN

SCALE: 3/16"=1'-0"



FOOTING CONSTRUCTION JOINT LOCATION PLAN

SCALE: NOT TO SCALE



NOTE:
CUT REINFORCING AS REQUIRED TO ACCOMMODATE SLAB BASE. SEE SECTIONS FOR CONFIGURATIONS.

TYPICAL SLAB REINFORCEMENT LAYOUT

SCALE: NOT TO SCALE

0 4'-0" 8'-0" 12'-0"
SCALE 3/16"=1'-0" AT ORIGINAL SIZE

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700 EAST PRATT STREET, SUITE 500
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FOUNDATION SLAB PLAN AND REINFORCING LAYOUT

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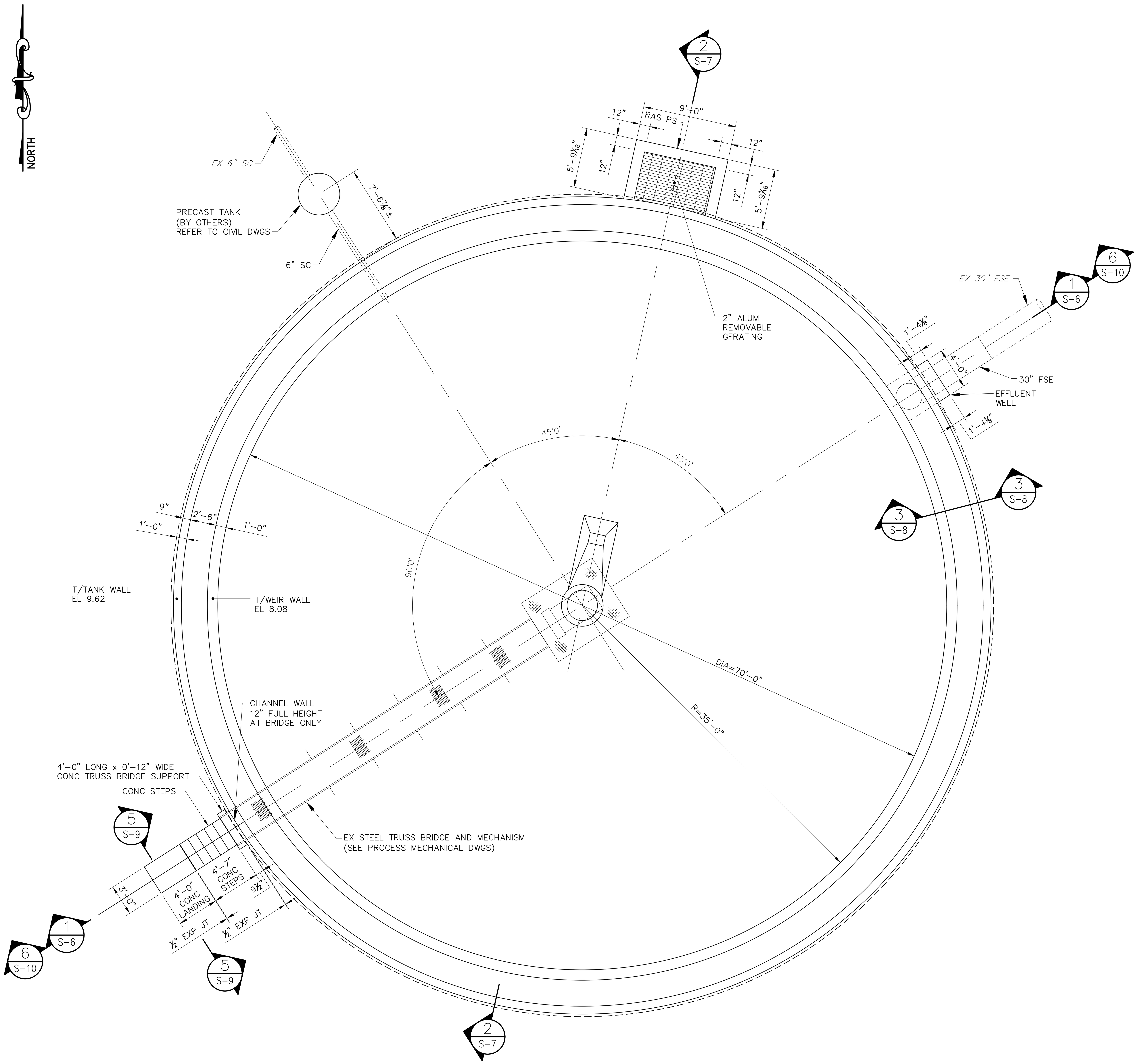

SECONDARY CLARIFIER NO. 1- WALKWAY PLAN

SCALE: 3/16"=1'-0"

0 4'-0" 8'-0" 12'-0"

SCALE 3/16"=1'-0" AT ORIGINAL SIZE

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SUITE 329
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410-522-5870

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PLAN AND DETAILS

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S-5

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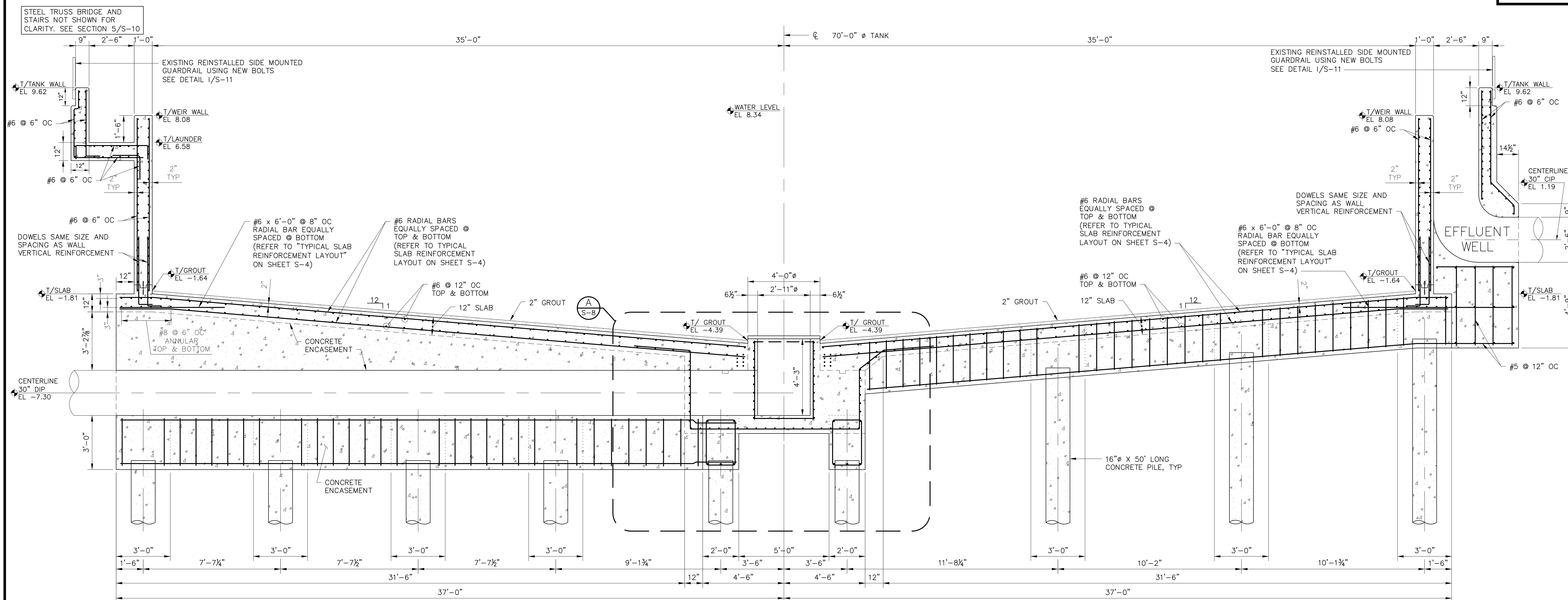

1 SECTION S-6

SCALE: 3/8"=1'-0"

NOTE:

1. HORIZONTAL WALL REINFORCEMENT TO LAP 24 DIAMETER WITH SPLICES STAGGERED.
2. REFER TO "TYPICAL SLAB REINFORCEMENT LAYOUT" ON SHEET S-4 FOR SIZE AND SPACING OF RADIAL REINFORCING.
3. REFER TO SHEET S-9 FOR GRADE BEAM AND PILE DETAILS.

SCALE 3/8"=1'-0" AT ORIGINAL SIZE

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3500 BOSTON STREET SUITE 329 BALTIMORE, MD 21224 410-522-5870

RUMMEL, KLEPPER & KAHL, LLP
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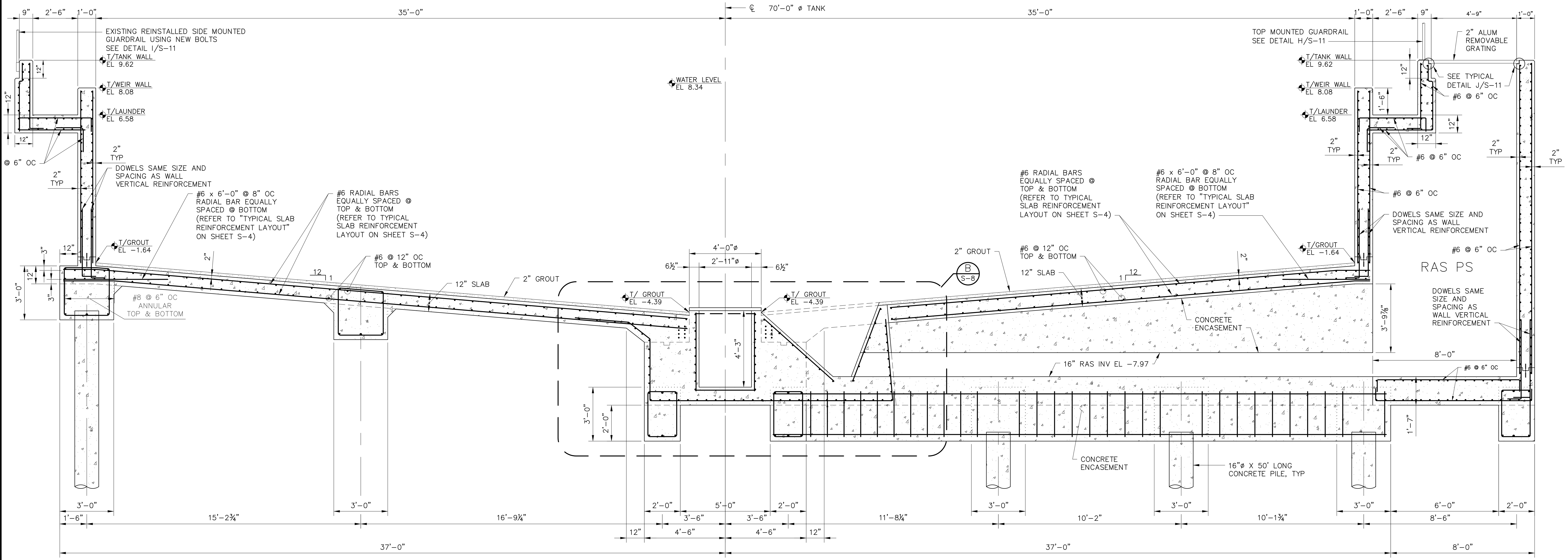

2 SECTION
S-7 SCALE: 3/8"=1'-0"

NOTE:
1. HORIZONTAL WALL REINFORCEMENT TO LAP 24 DIAMETER WITH SPLICES STAGGERED.
2. REFER TO "TYPICAL SLAB REINFORCEMENT LAYOUT" ON SHEET S-4 FOR SIZE AND SPACING OF RADIAL REINFORCING.
3. REFER TO SHEET S-9 FOR GRADE BEAM AND PILE DETAILS.

SCALE 3/8"=1'-0" AT ORIGINAL SIZE

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3500 BOSTON STREET SUITE 329 BALTIMORE, MD 21224 410-522-5870

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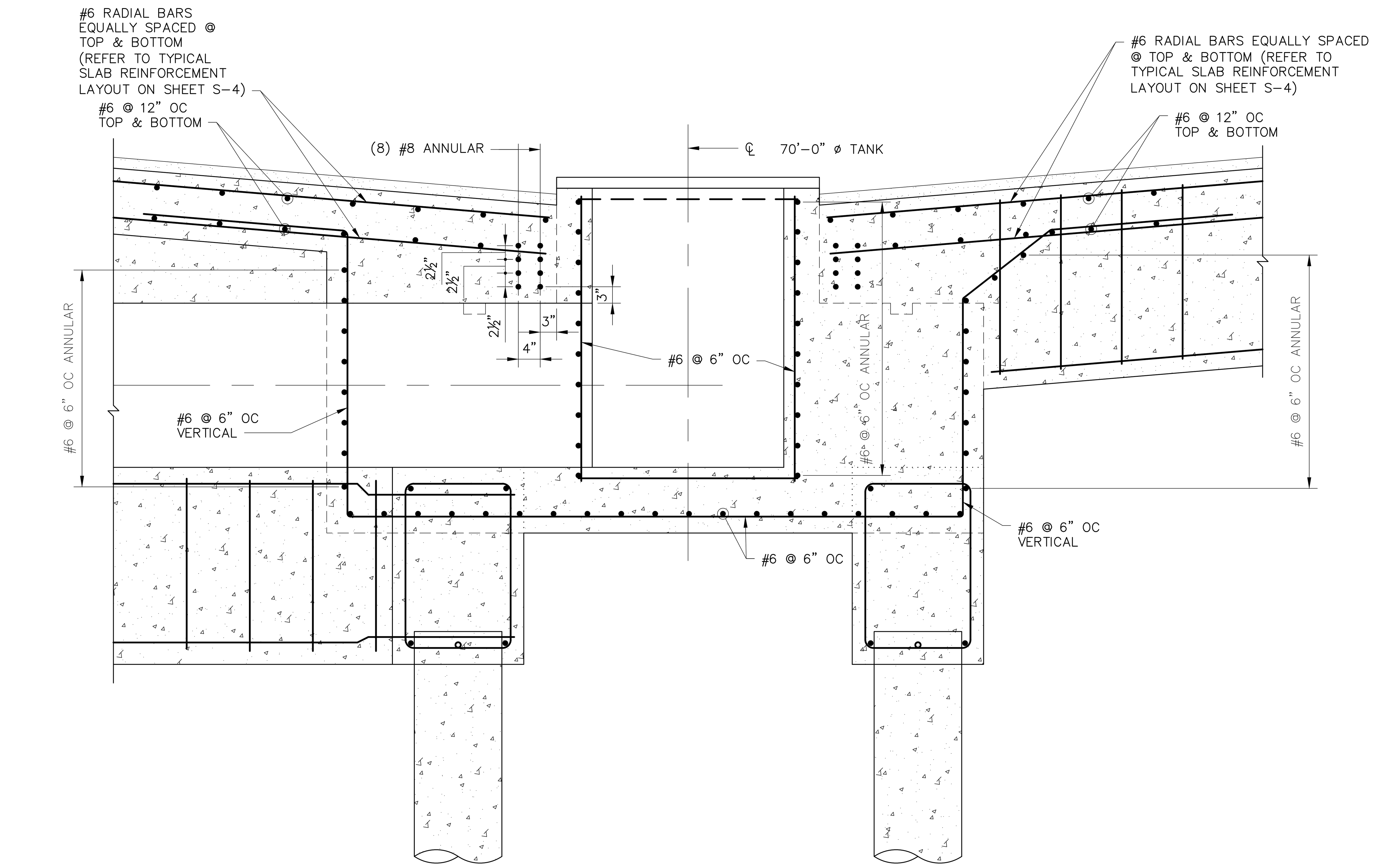

A SECTION
S-8 SCALE: 3/4"=1'-0"

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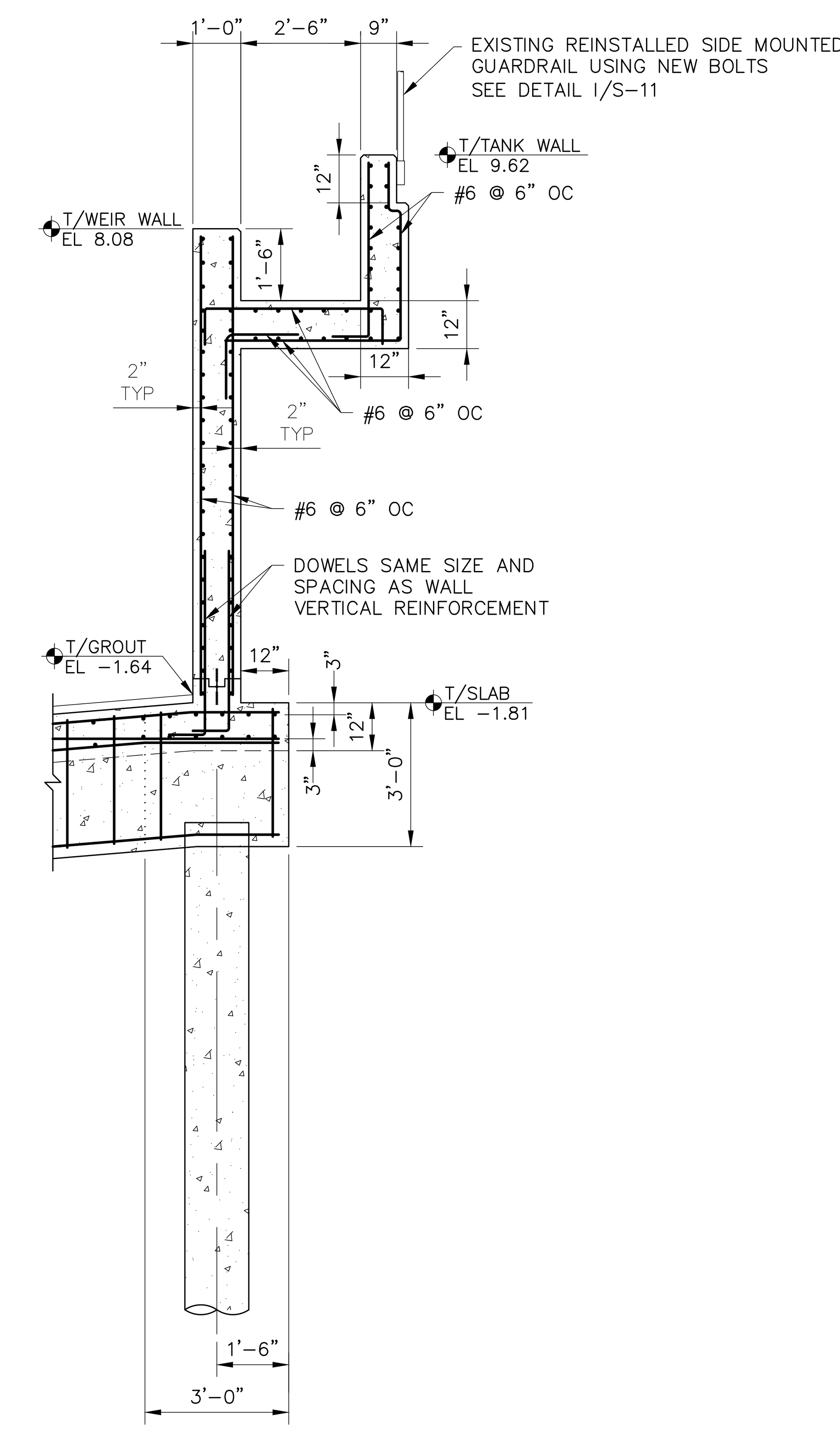
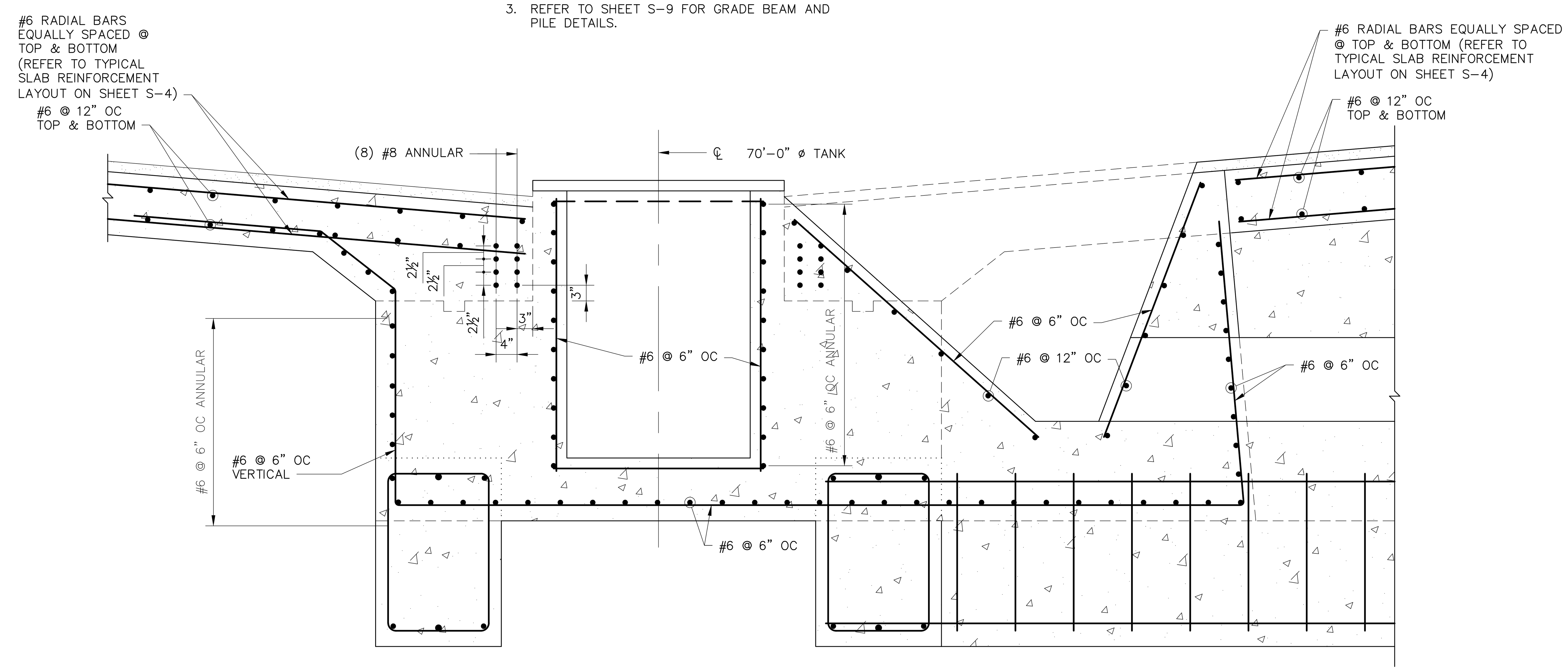
3. REFER TO SHEET S-9 FOR GRADE BEAM AND PILE DETAILS.



3 SECTION
S-8 SCALE: 3/8"=1'-0"



B SECTION
S-8 SCALE: 3/4"=1'-0"

NOTE:
1. HORIZONTAL WALL REINFORCEMENT TO LAP 24 DIAMETER WITH SPLICES STAGGERED.
2. REFER TO "TYPICAL SLAB REINFORCEMENT LAYOUT" ON SHEET S-4 FOR SIZE AND SPACING OF RADIAL REINFORCING.
3. REFER TO SHEET S-9 FOR GRADE BEAM AND PILE DETAILS.

SCALE 3/4"=1'-0" AT ORIGINAL SIZE (0, 1'-0", 2'-0", 3'-0")
SCALE 3/8"=1'-0" AT ORIGINAL SIZE (0, 2'-0", 4'-0", 6'-0")

ALBRECHT ENGINEERING INC
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PROFESSIONAL CERTIFICATION
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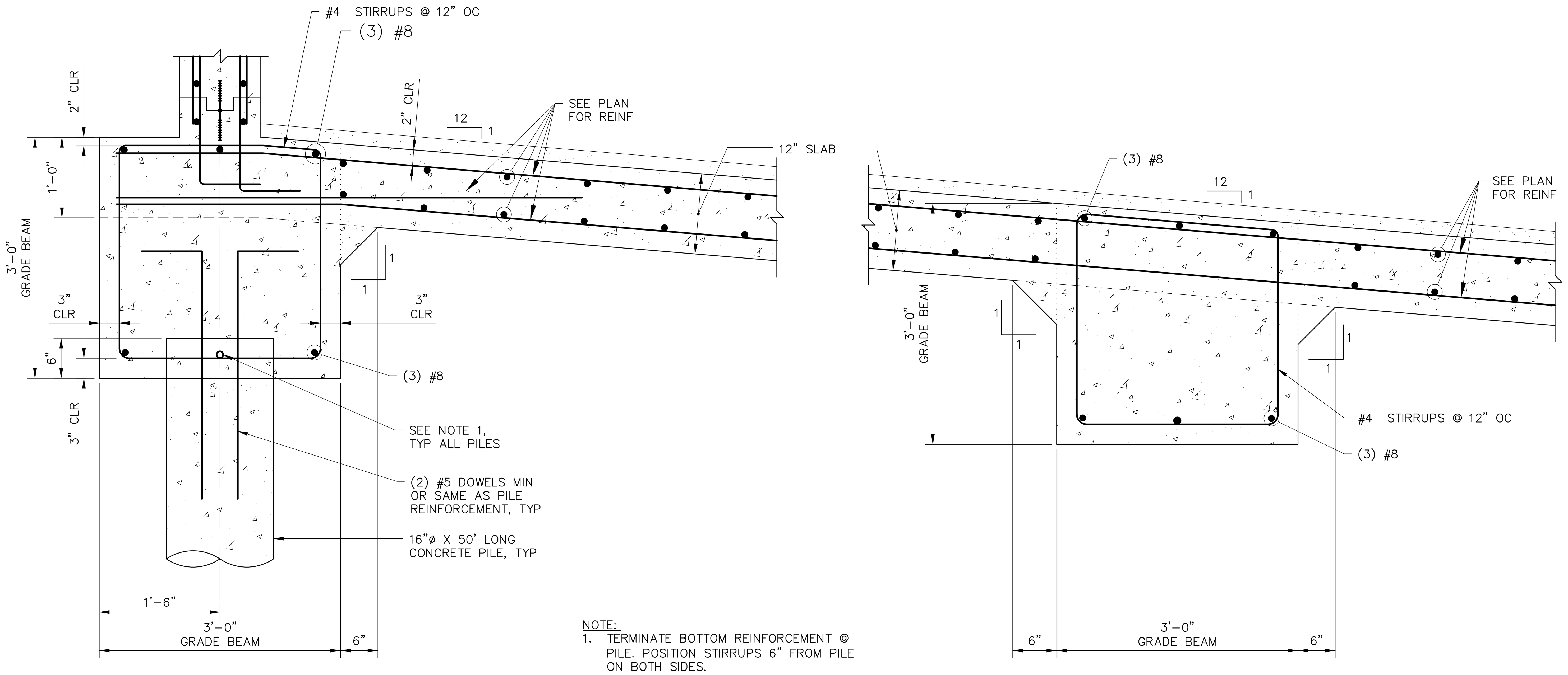
NO.	DESCRIPTION	BY	DATE
REVISIONS			

MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARYS COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

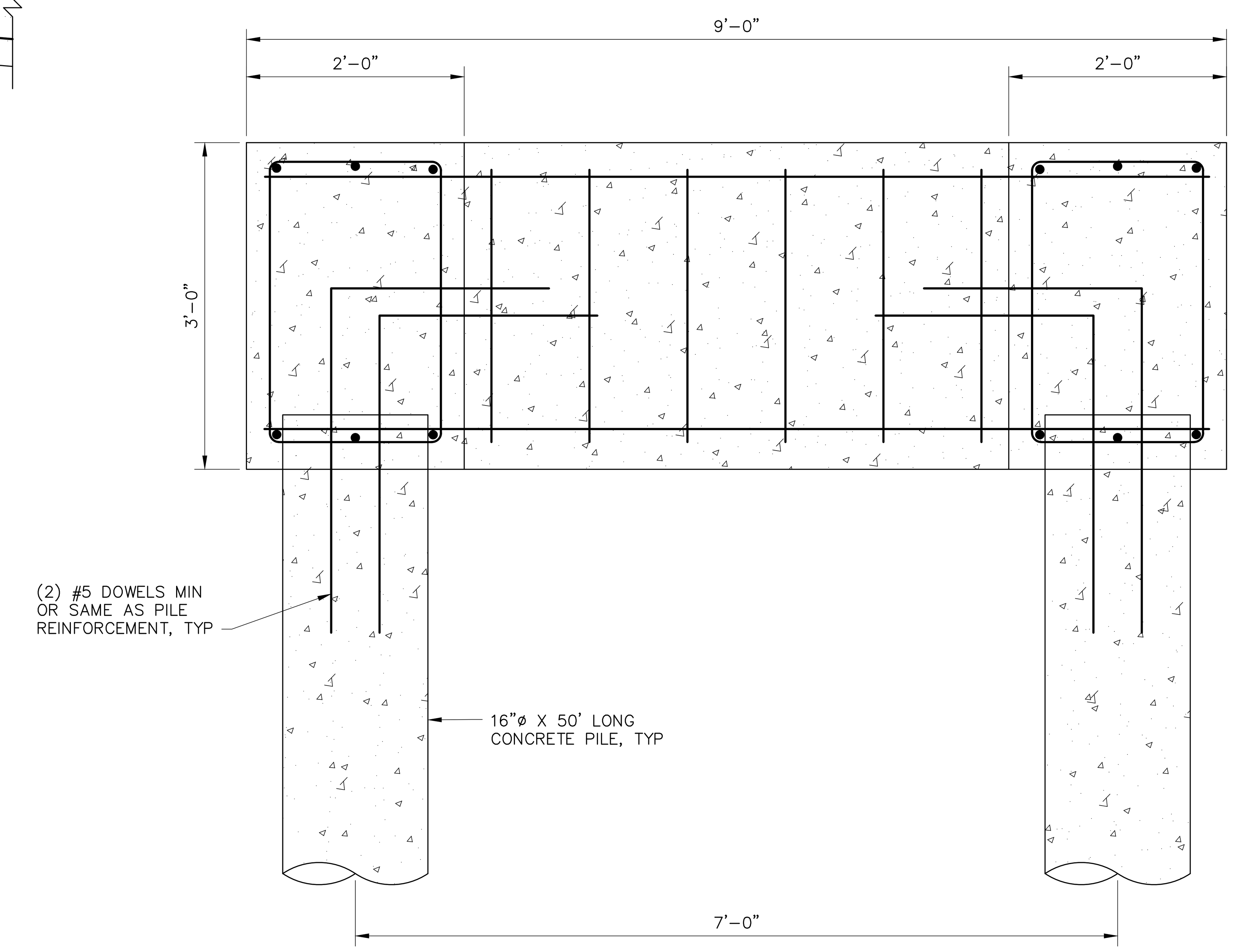
SECTIONS AND DETAILS

ENGINEER	DESIGNED BY
RLA	CCC
DRAWN BY	DATE
KAP	4/2021
PROJECT NUMBER	
8191SR	

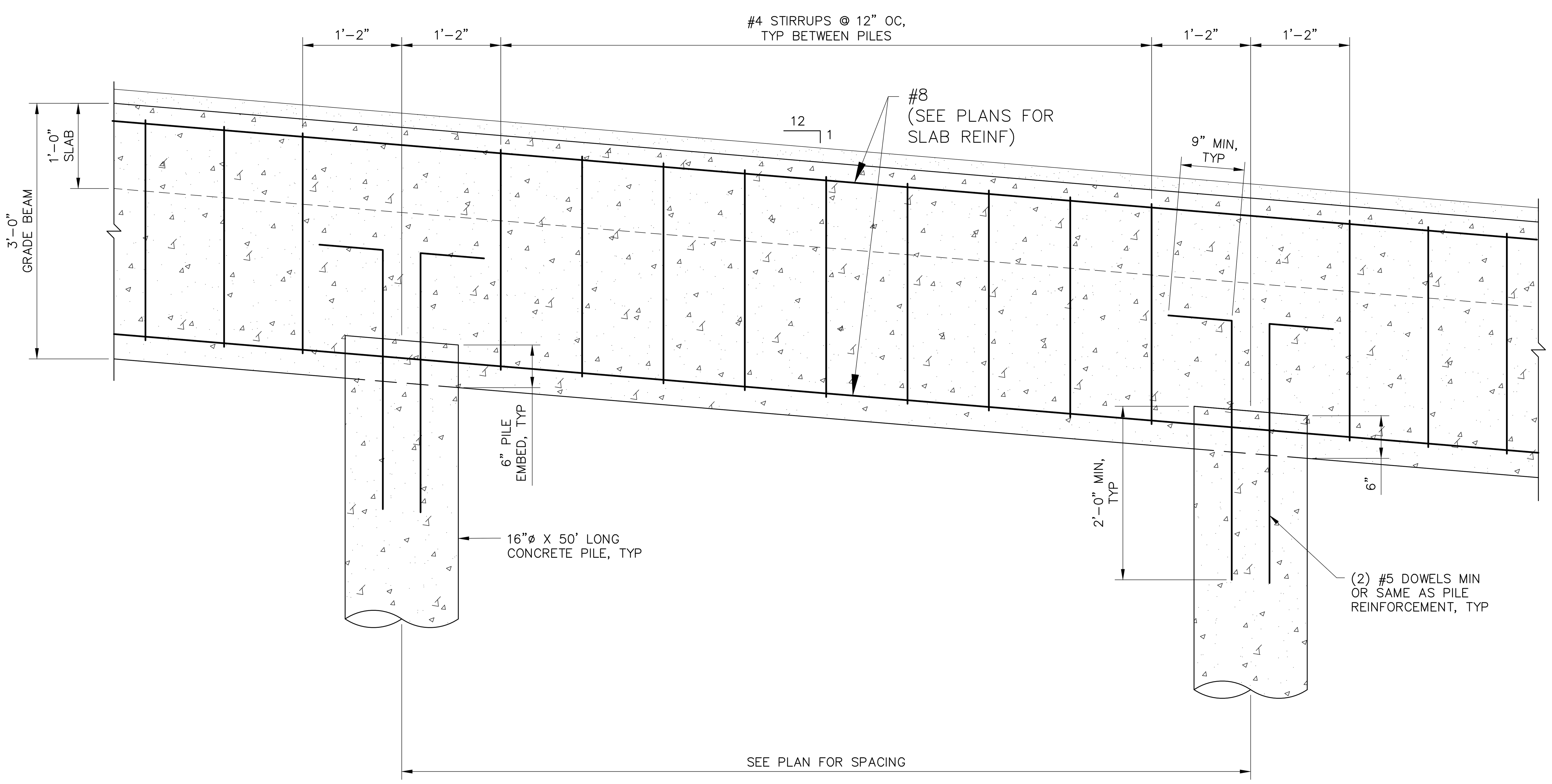
DRAWING NUMBER
S-8



4 SECTION
S-9 SCALE: 1"=1'-0"



5 SECTION
S-9 SCALE: 1"=1'-0"



TYPICAL SECTION ALONG GRADE BEAM BETWEEN PILES
SCALE: 1"=1'-0"

0 1'-0" 2'-0"
SCALE 1"=1'-0" AT ORIGINAL SIZE

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REVISIONS

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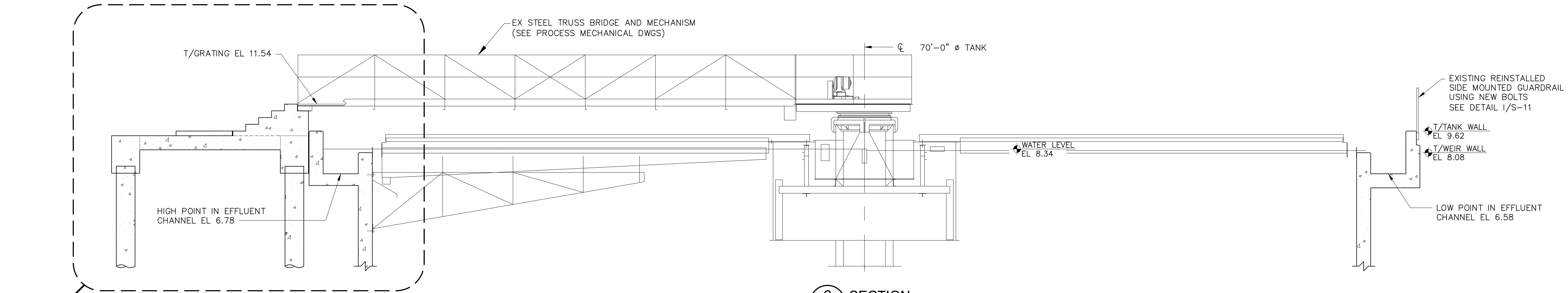
TYPICAL GRADE BEAM AND PILE DETAILS

ENGINEER	DESIGNED BY
RLA	CCC
DRAWN BY	DATE
KAP	4/2021

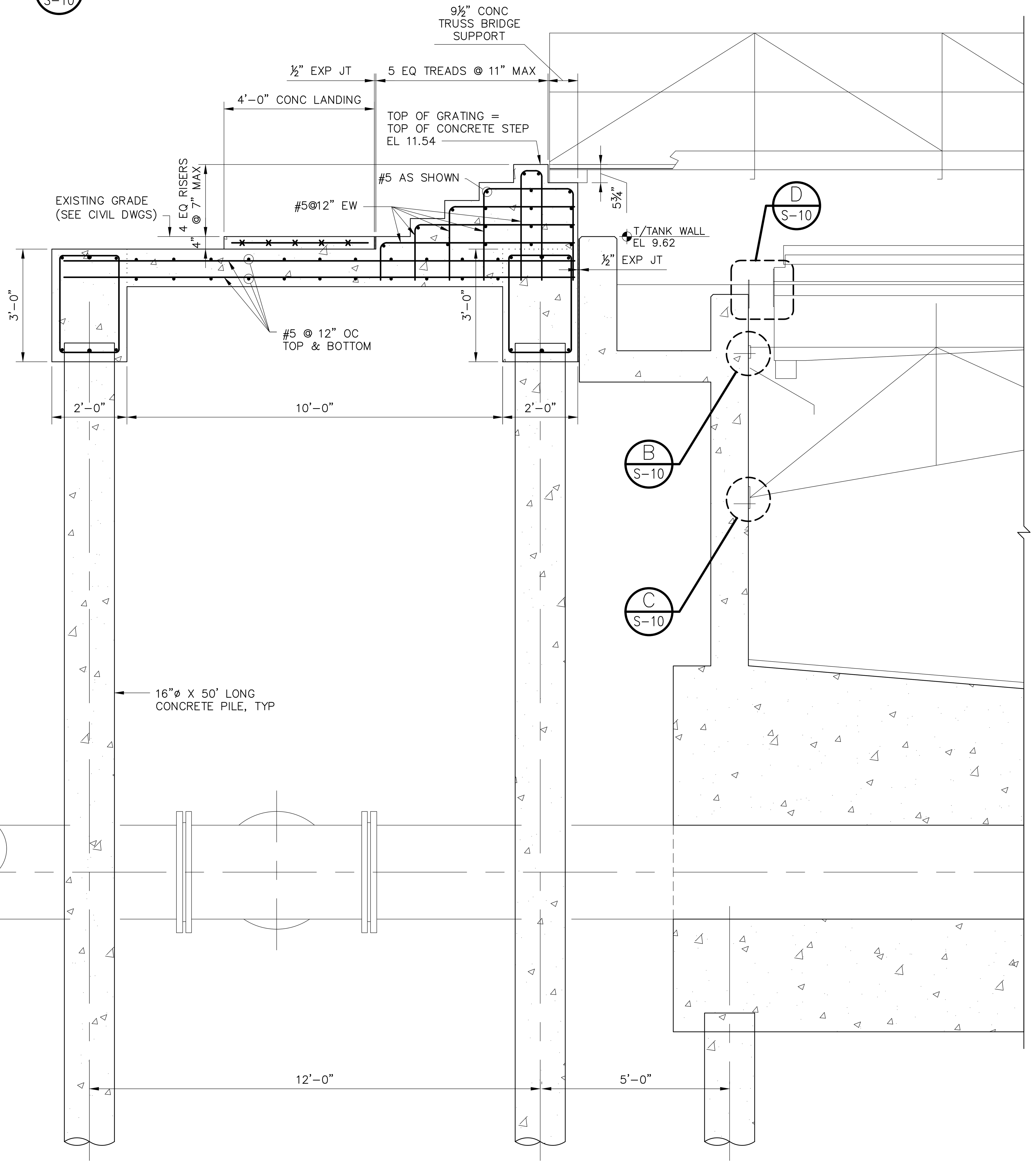
PROJECT NUMBER 8191SR

DRAWING NUMBER S–9

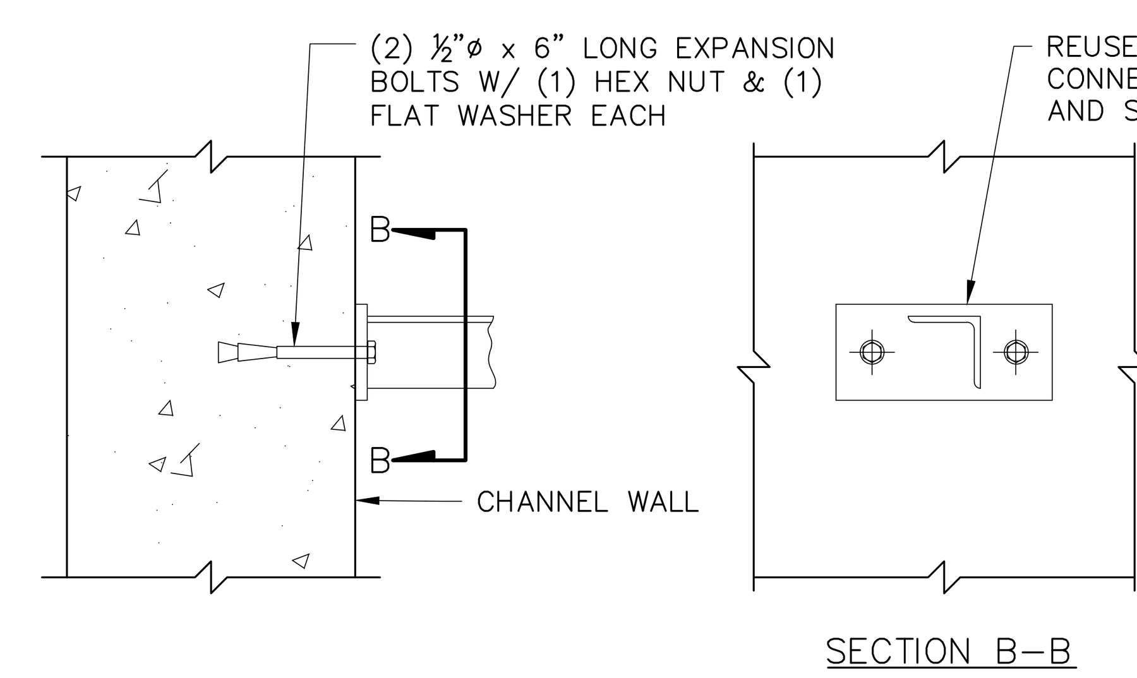
SHEET NO. 18 OF 28



6 SECTION S-10
SCALE: 1/4"=1'-0"

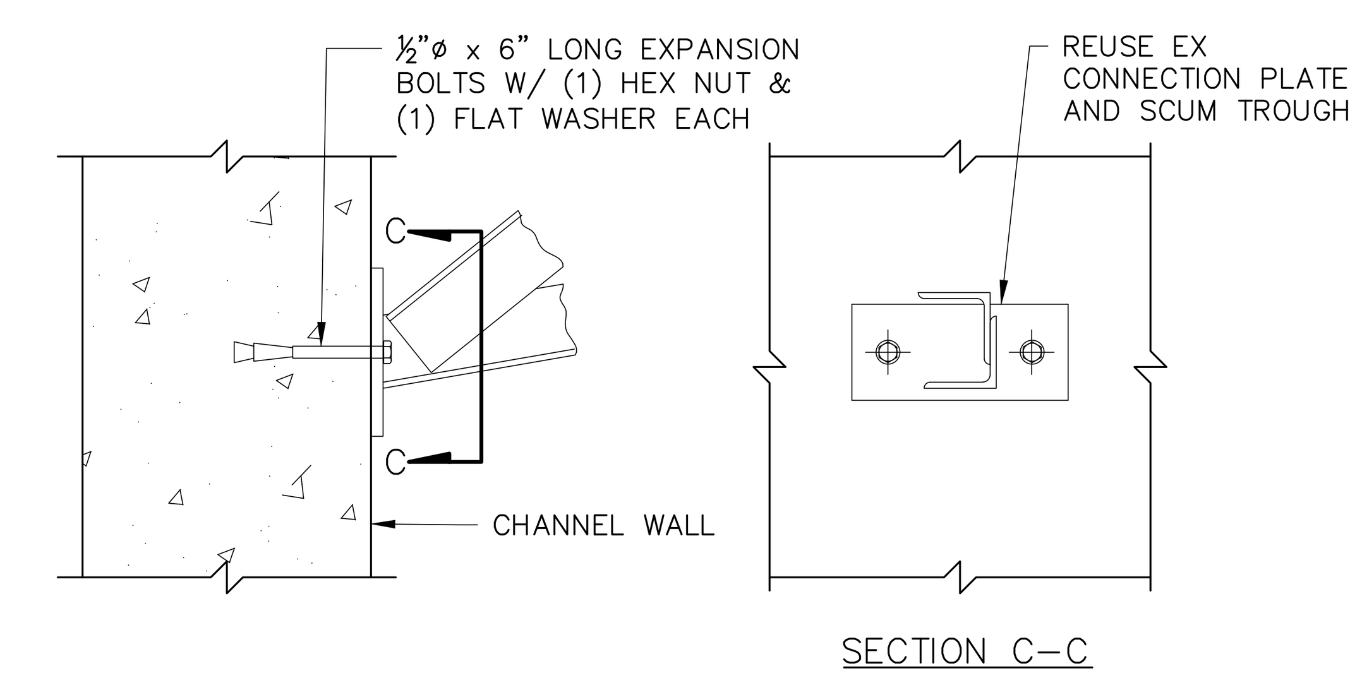


A DETAIL S-10
SCALE: 1/2"=1'-0"

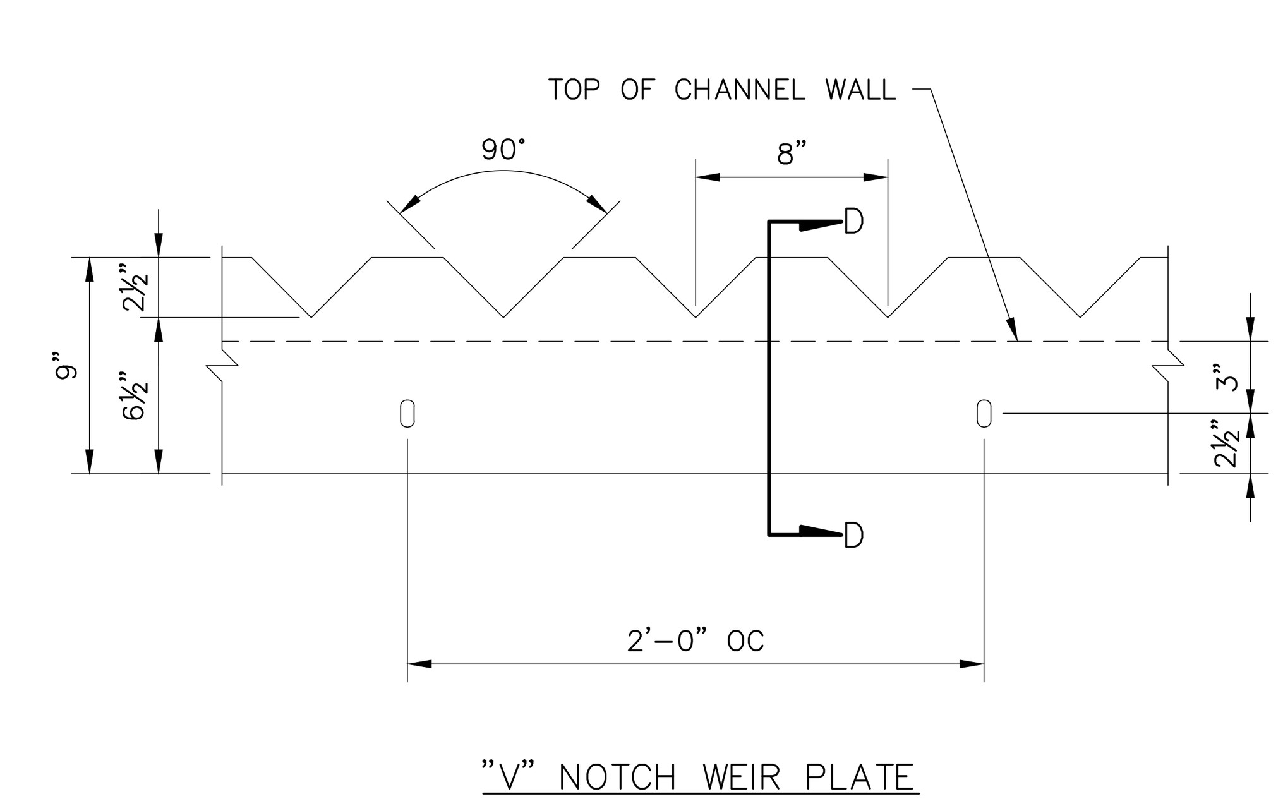


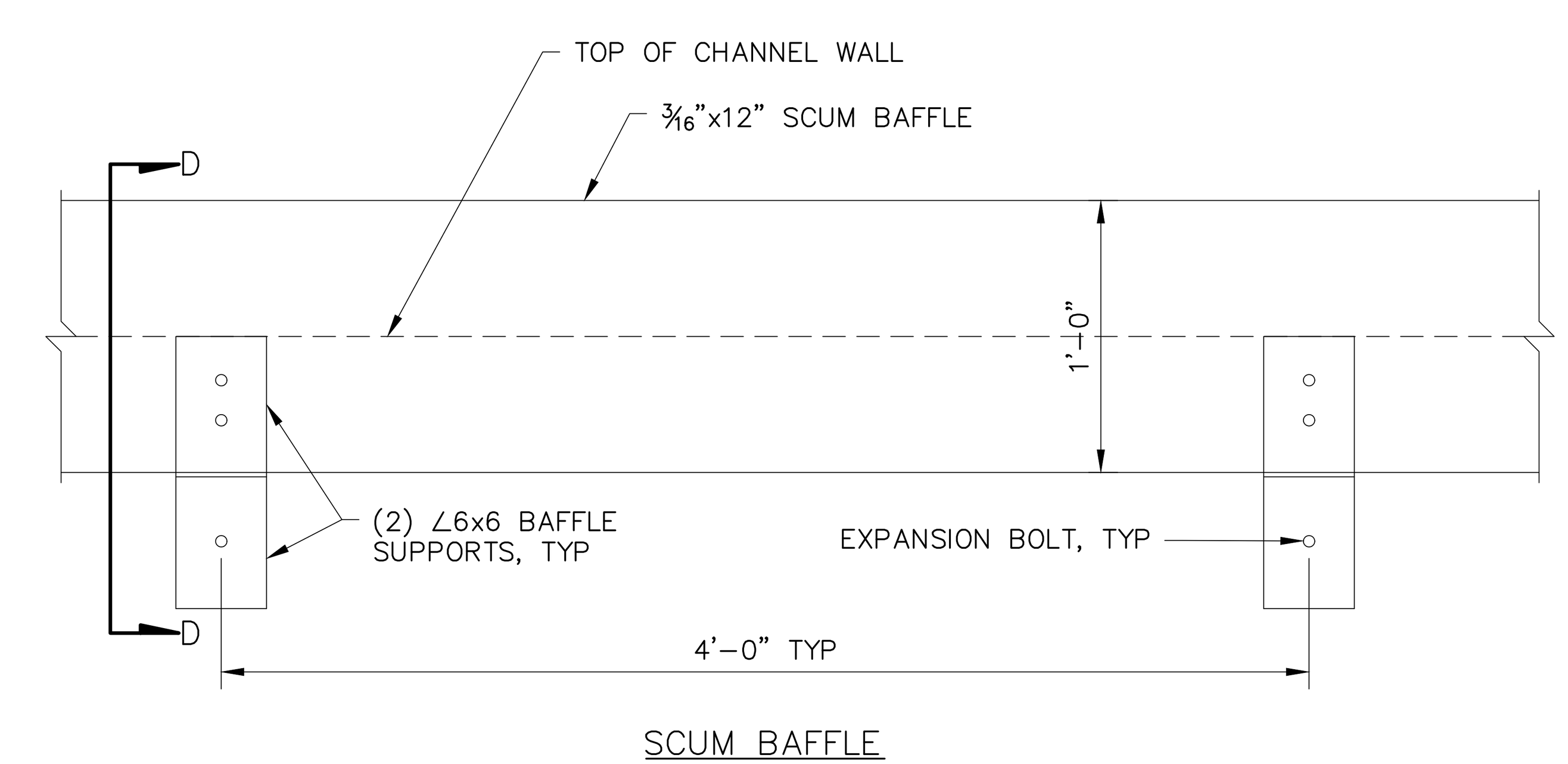
B DETAIL S-10
SCALE: 1-1/2"=1'-0"

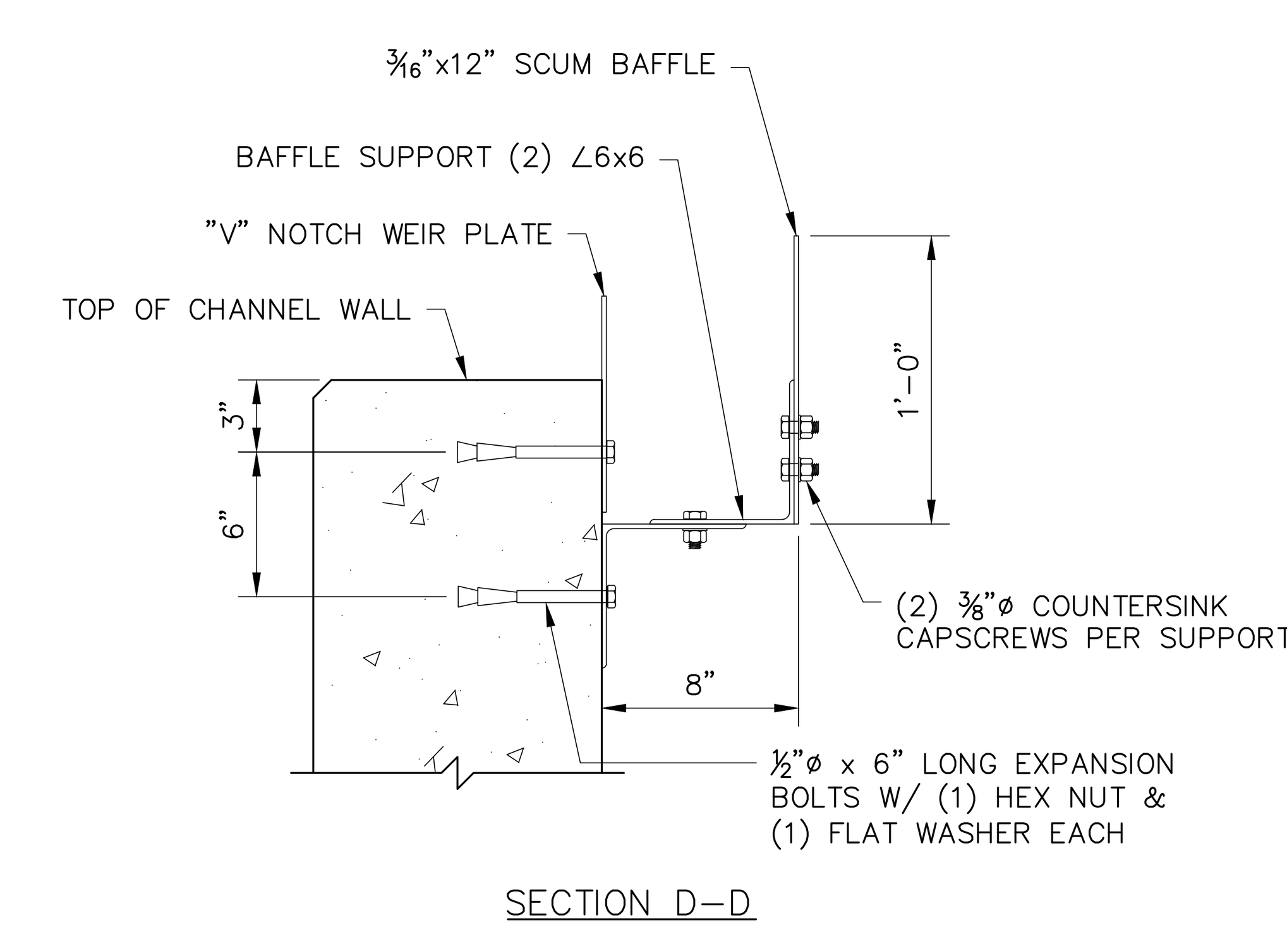
CONTRACTOR TO PROVIDE NEW HARDWARE WHEN REINSTALLING V–NOTCH WEIRS, SCUM BAFFLES, AND STAMFORD BAFFLES.



C DETAIL S-10
SCALE: 1-1/2"=1'-0"







D DETAIL - WEIR PLATE & SCUM BAFFLE S-10
SCALE: 1-1/2"=1'-0"

SCALE 1 1/2"=1'-0" AT ORIGINAL SIZE (0, 4", 8", 12", 16")

SCALE 1/2"=1'-0" AT ORIGINAL SIZE (0, 1'-0", 2'-0", 3'-0", 4'-0")

SCALE 1/4"=1'-0" AT ORIGINAL SIZE (0, 2'-0", 4'-0", 6'-0", 8'-0")

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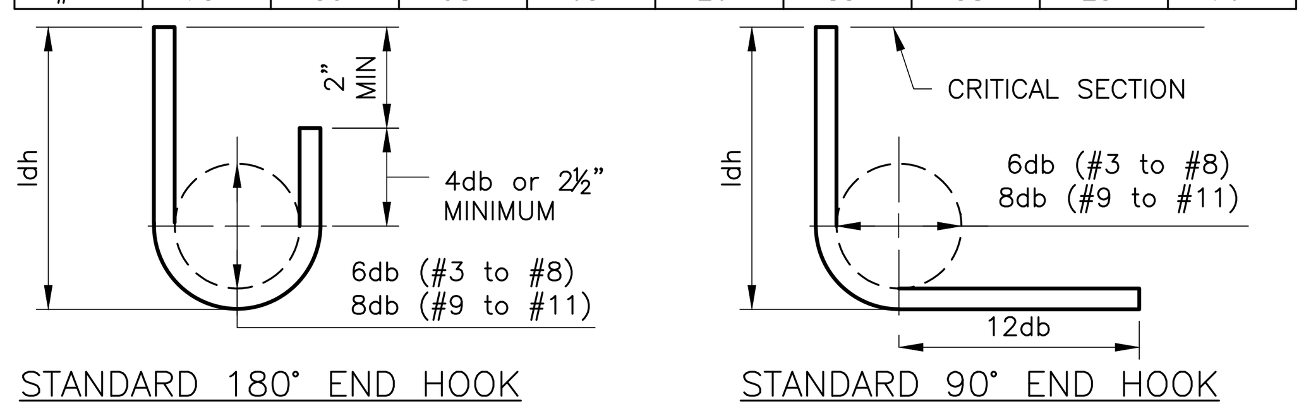
EX STEEL TRUSS BRIDGE AND MECHANISM PLAN, SECTIONS AND DETAILS

ENGINEER	DESIGNED BY
RLA	CCC
DRAWN BY	DATE
KAP	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
S–10
SHEET NO. 19 OF 28

BAR SIZE	f'c = 3000 PSI			f'c = 4000 PSI			f'c = 5000 PSI		
	l_d	l_{dh}	LAP SPLICE	l_d	l_{dh}	LAP SPLICE	l_d	l_{dh}	LAP SPLICE
#3	16"	8"	21"	14"	7"	18"	13"	6"	17"
#4	22"	11"	29"	19"	10"	25"	17"	9"	22"
#5	27"	14"	36"	24"	12"	31"	21"	11"	28"
#6	33"	16"	43"	29"	14"	37"	26"	13"	33"
#7	48"	19"	62"	42"	17"	54"	37"	15"	48"
#8	55"	22"	71"	47"	19"	62"	42"	17"	55"
#9	62"	25"	80"	53"	21"	69"	48"	19"	62"
#10	69"	27"	89"	59"	24"	77"	53"	21"	69"
#11	75"	30"	98"	65"	26"	85"	58"	23"	76"



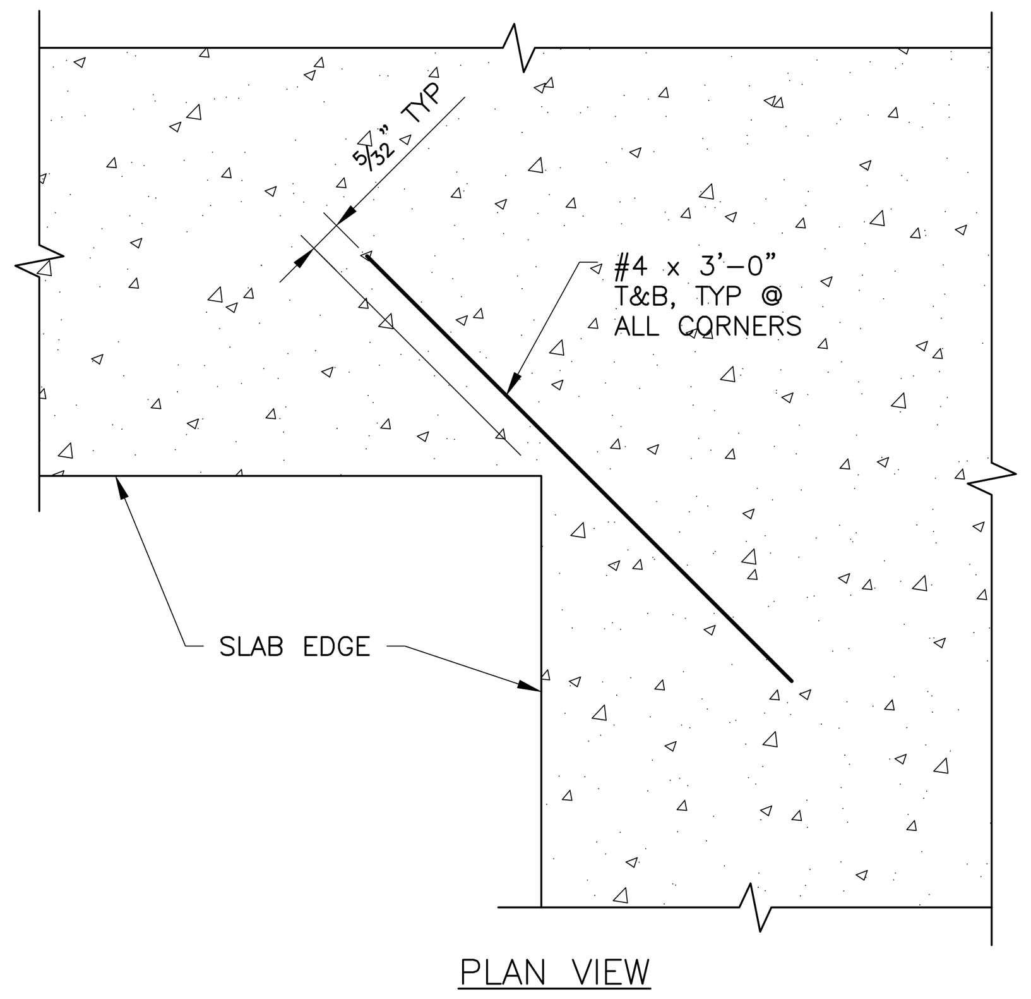
NOTES FOR DEVELOPMENT LENGTH OF STRAIGHT BARS (ld) AND LAP SPLICE LENGTHS:

1. MULTIPLY VALUES IN TABLE BY 1.33 FOR LIGHTWEIGHT CONCRETE.
2. MULTIPLY VALUES IN TABLE BY 1.5 FOR EPOXY COATED REINFORCEMENT.
3. MULTIPLY VALUES IN TABLE BY 1.3 FOR TOP BARS (BARS CAST WITH MORE THAN 12" OF CONCRETE BELOW THEM).
4. FOR BARS WITHOUT STIRRUPS, SPACING SHALL NOT BE LESS THAN 2*db AND COVER SHALL NOT BE LESS THAN db.
5. FOR BARS WITH STIRRUPS, SPACING SHALL NOT BE LESS THAN db AND COVER SHALL NOT BE LESS THAN db.

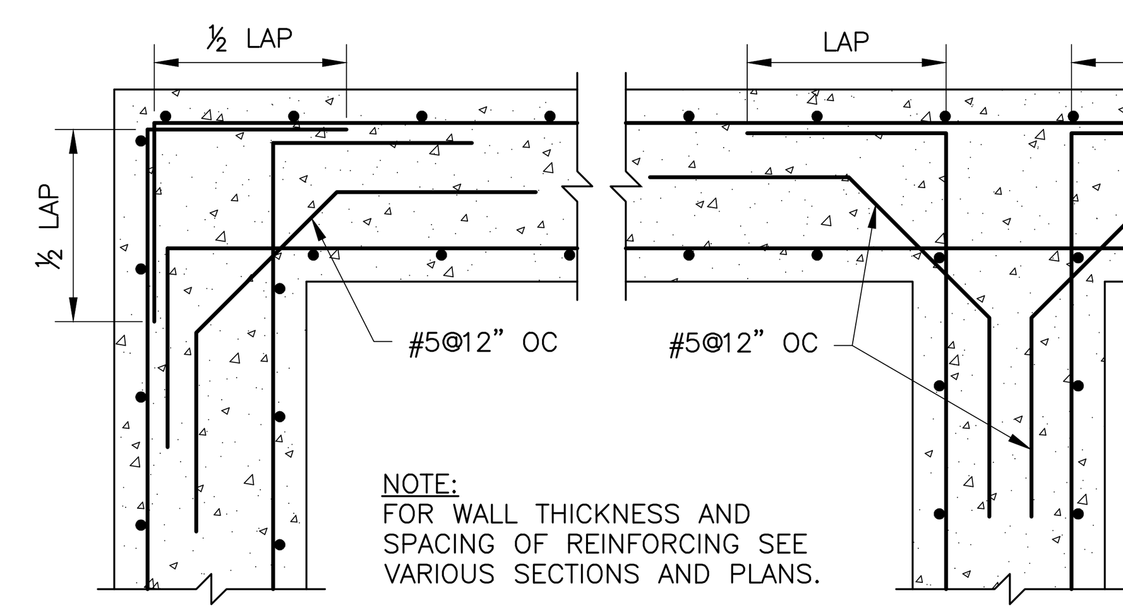
NOTES FOR DEVELOPMENT LENGTH OF BARS WITH STANDARD HOOKS (ldh):

1. MULTIPLY VALUES IN TABLE BY 1.33 FOR LIGHTWEIGHT CONCRETE.
2. MULTIPLY VALUES IN TABLE BY 1.2 FOR EPOXY COATED REINFORCEMENT.
3. MULTIPLY VALUES IN TABLE BY 0.8 FOR BARS WITH STIRRUPS MEETING ACI REQUIREMENTS.
4. MULTIPLY VALUES IN TABLE BY 0.7 FOR BARS WITH COVER MEETING ACI REQUIREMENTS.

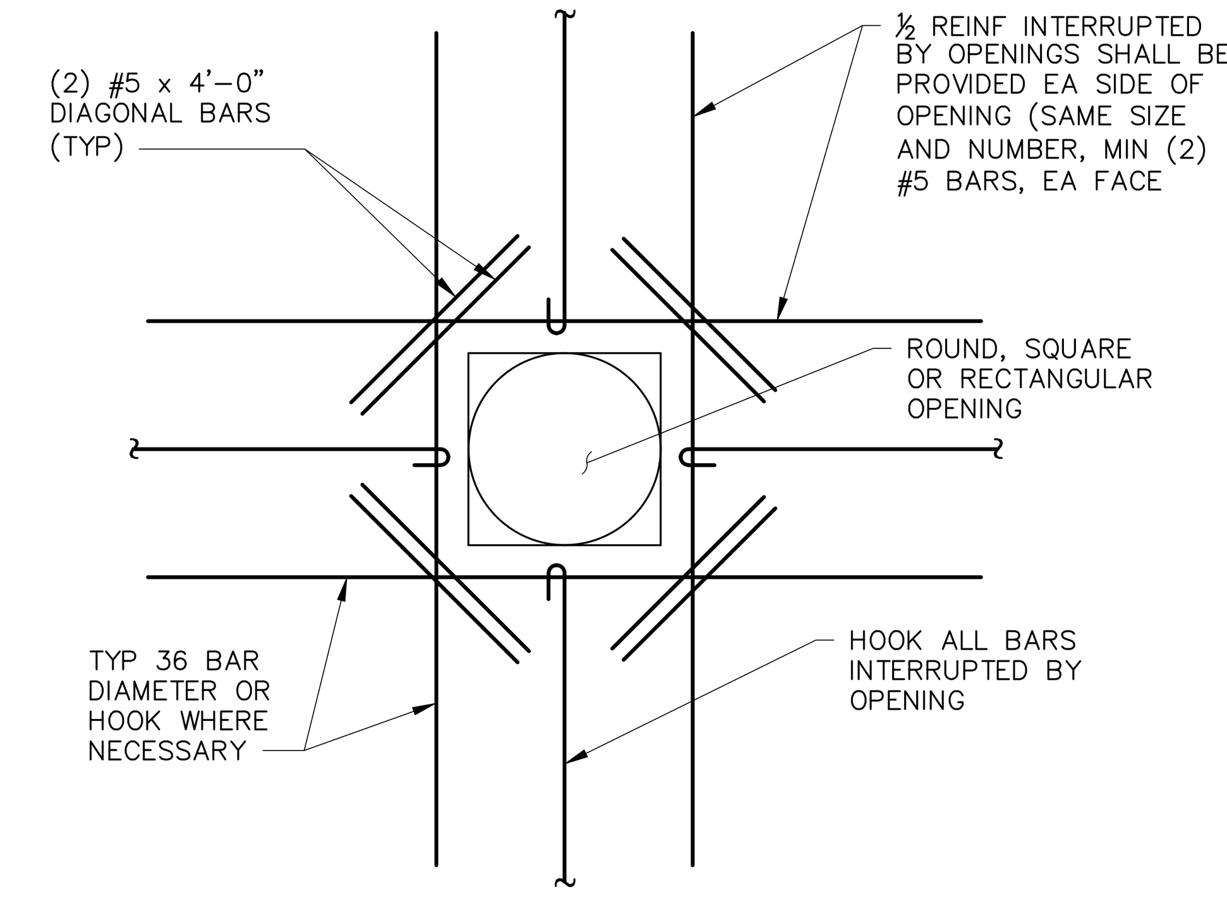
A S-11 REINFORCEMENT LAP SPLICES AND STANDARD HOOK LENGTHS
SCALE: NONE



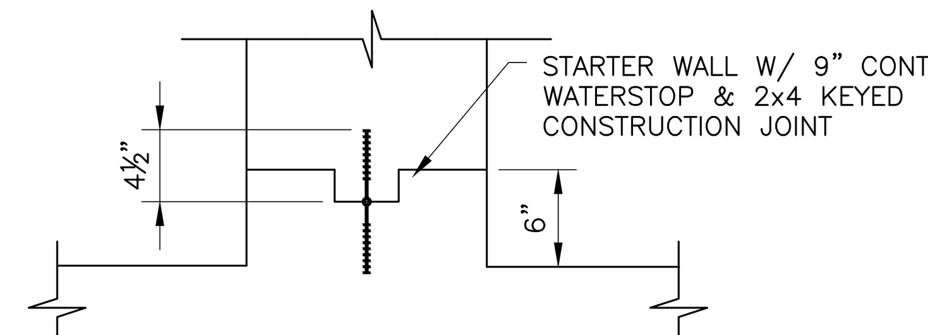
B S-11 ADDITIONAL REINFORCEMENT AT CORNERS
SCALE: NONE



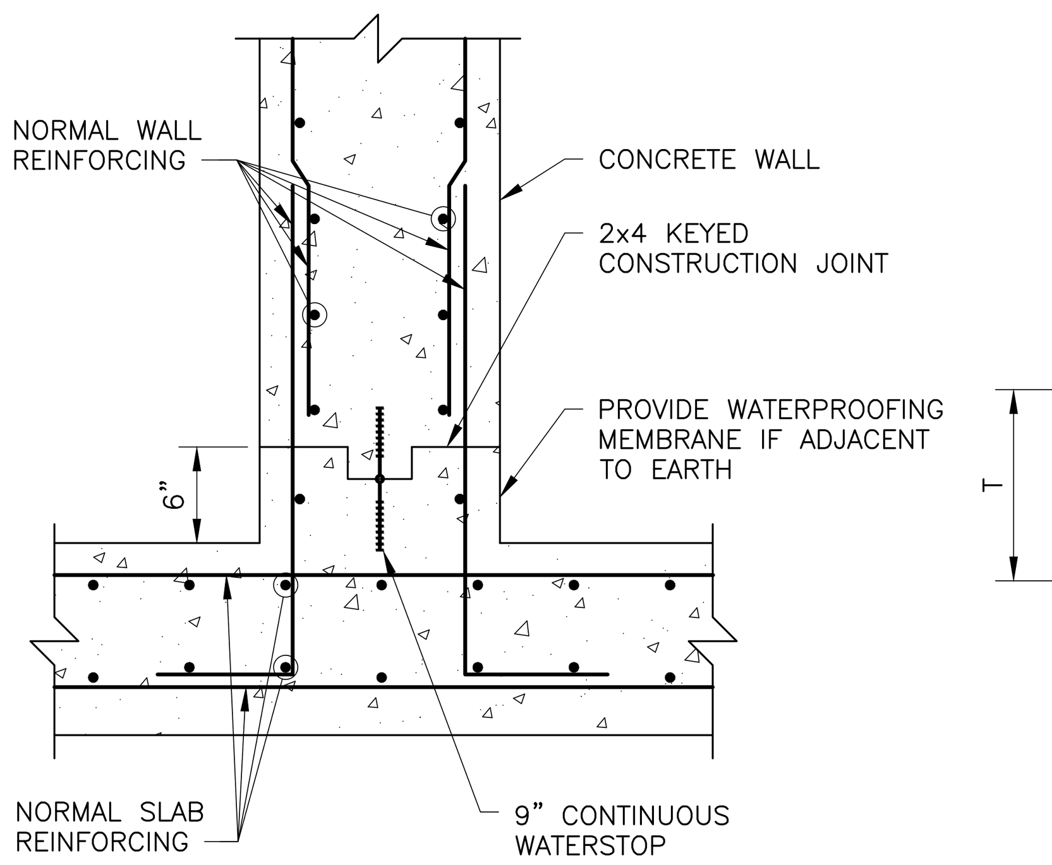
C S-11 REINFORCEMENT AT INTERSECTIONS
SCALE: NONE



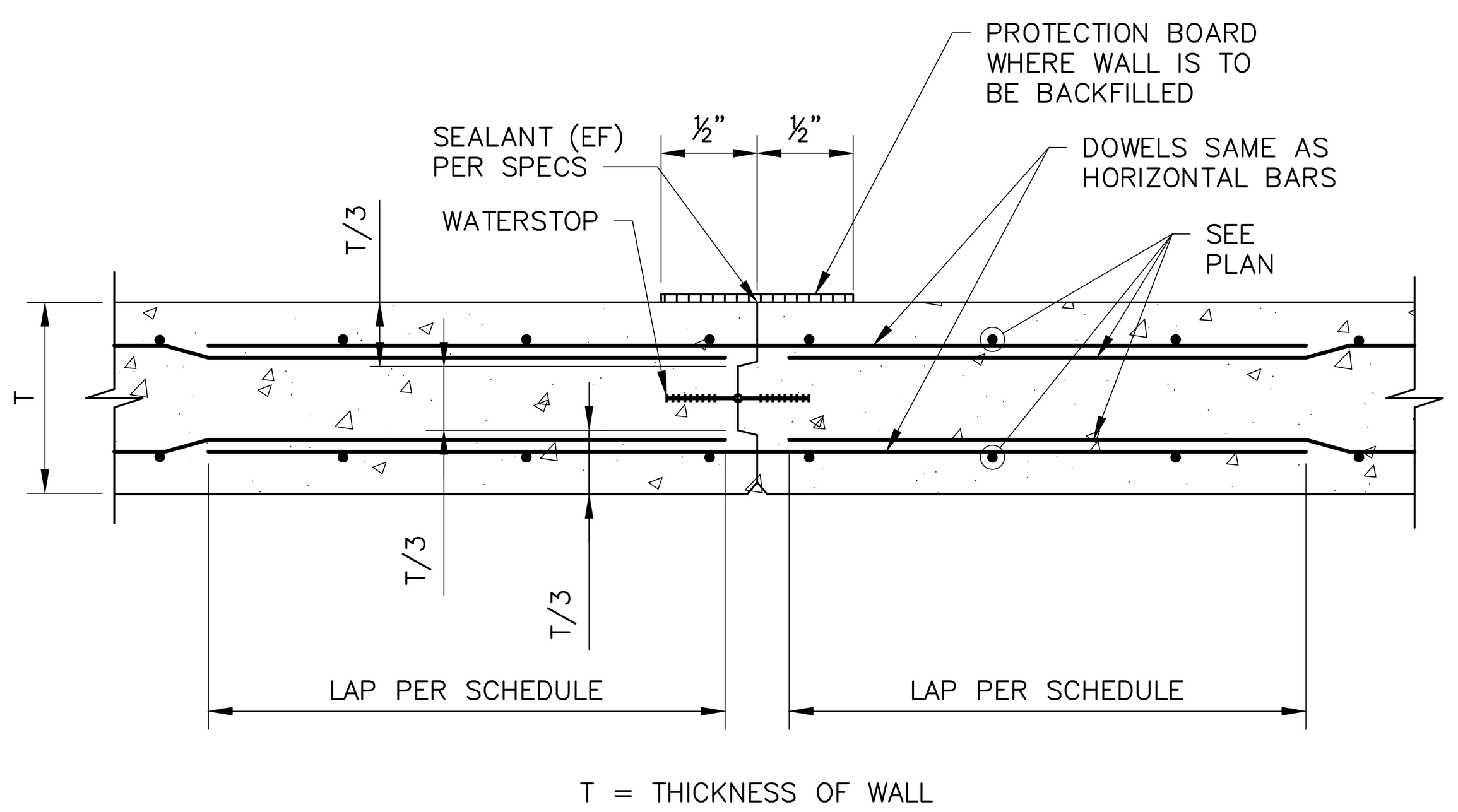
D S-11 SLAB / WALL OPENING REINFORCEMENT
SCALE: NONE



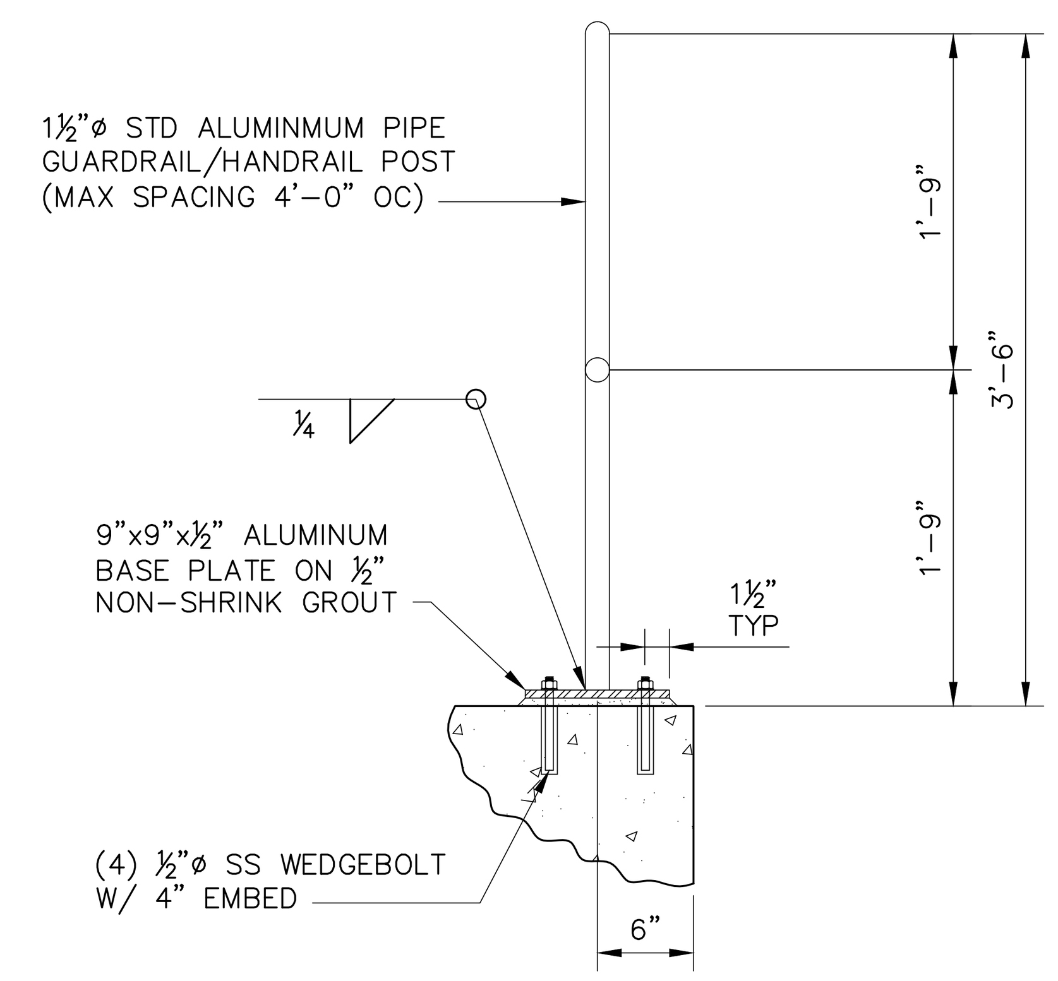
E S-11 SHEAR KEY IN WALL W/ 9" WATERSTOP
SCALE: NONE



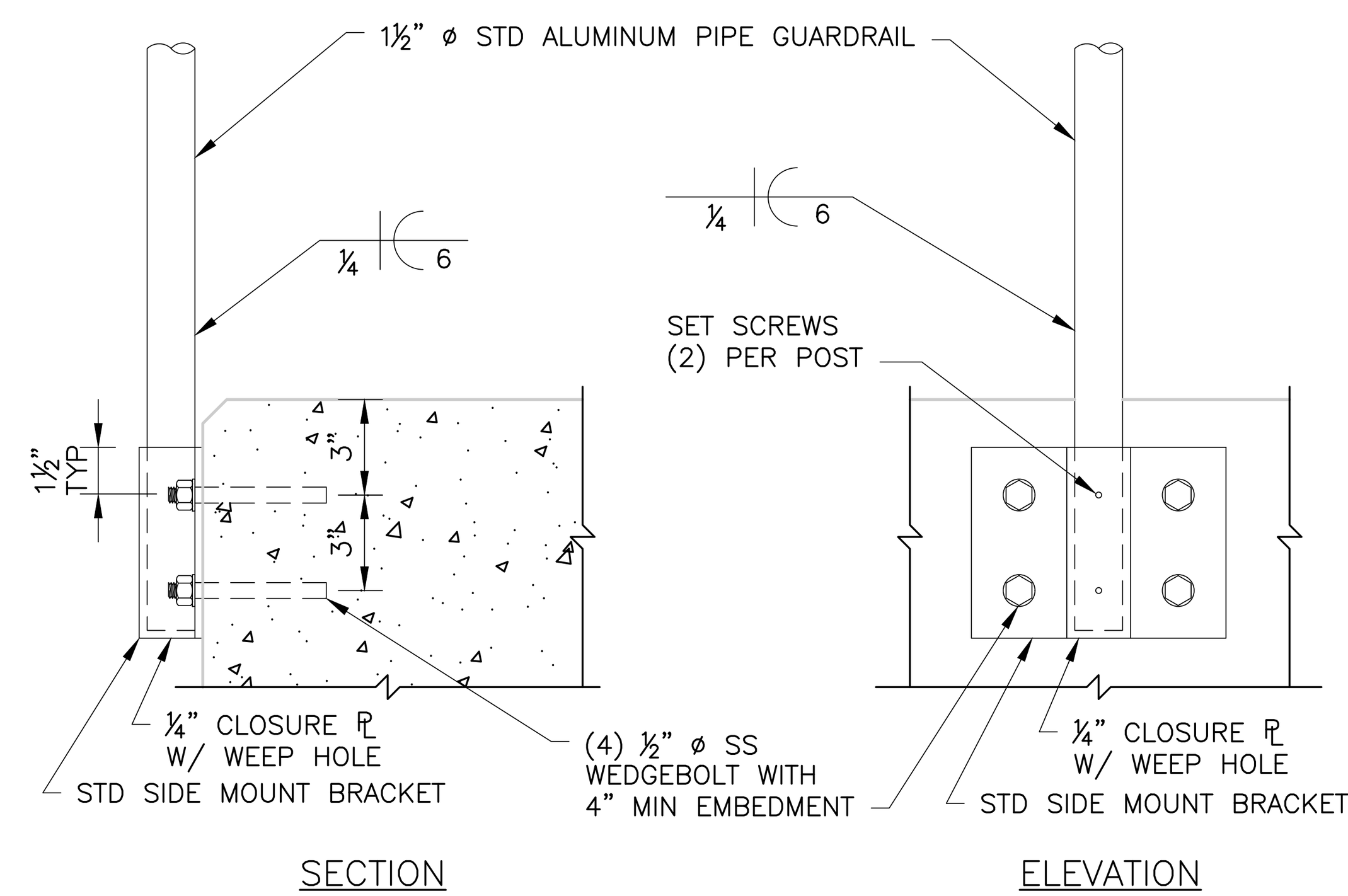
F S-11 WALL TO SLAB CONSTRUCTION JOINT
SCALE: NONE



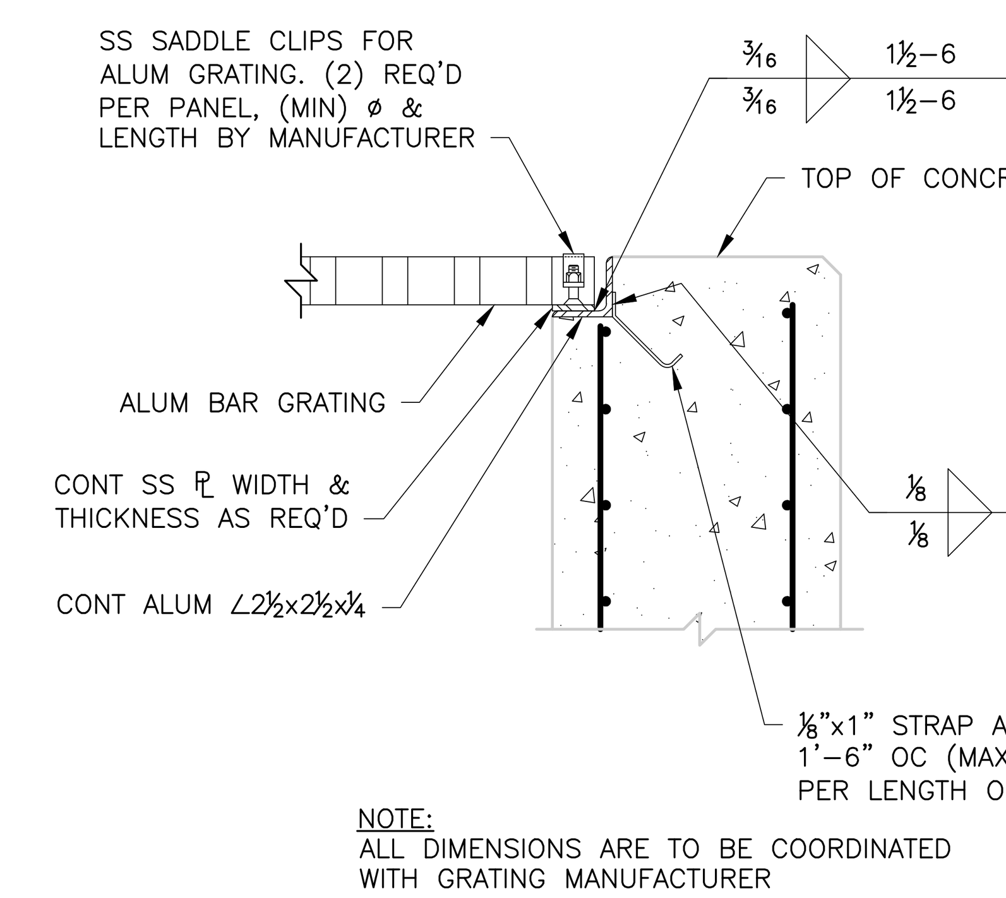
G S-11 WALL CONSTRUCTION JOINT
SCALE: NONE



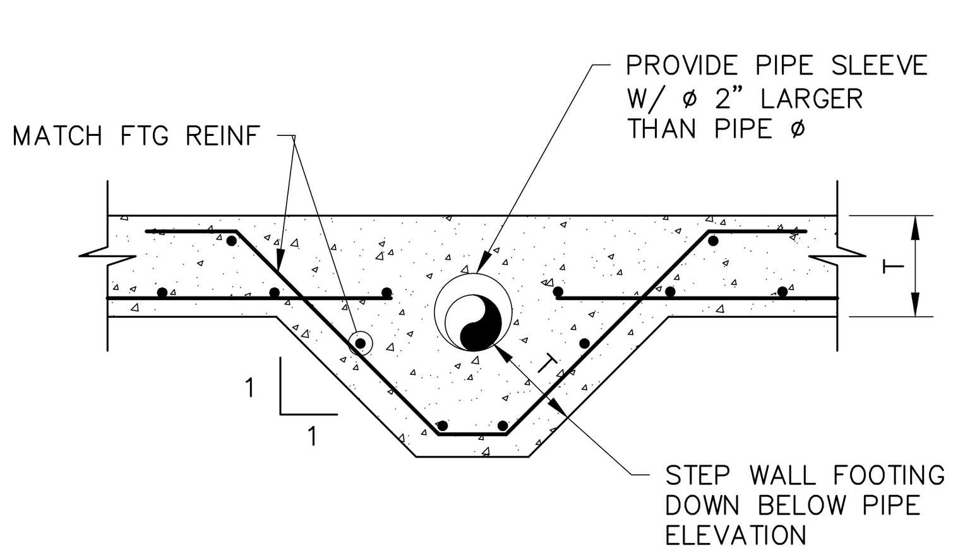
H S-11 GUARDRAIL MOUNTED TO TOP OF CONCRETE
SCALE: NONE



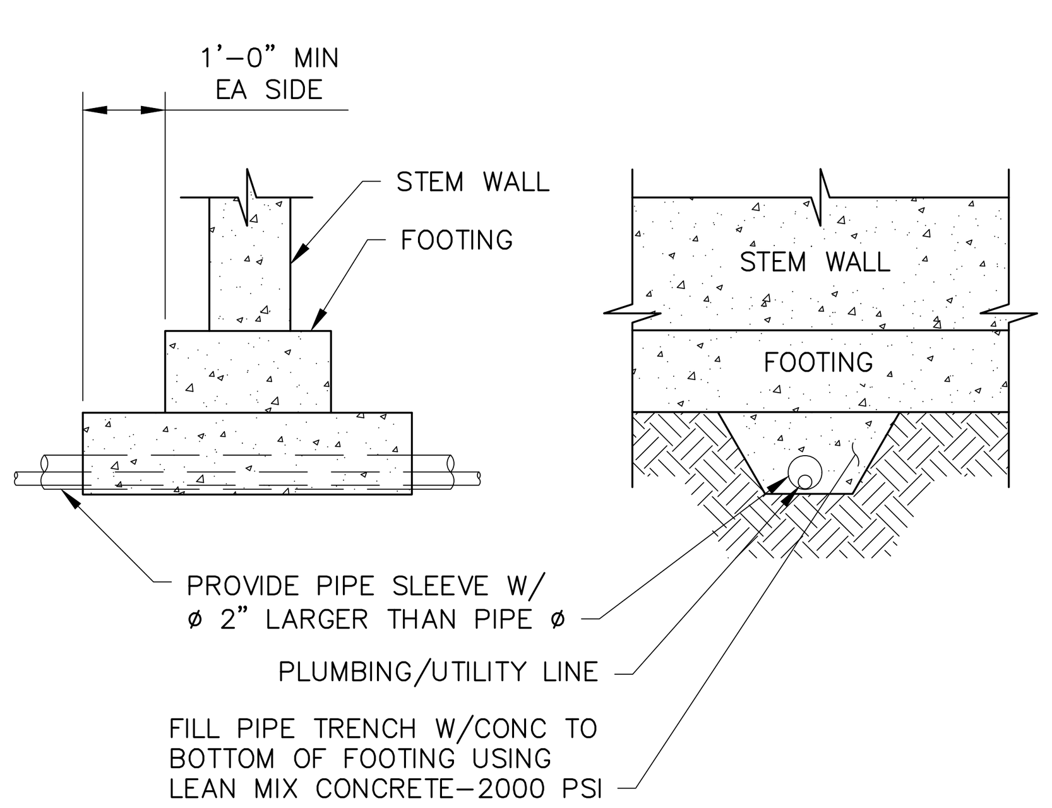
I S-11 EX GUARDRAIL REINSTALLED SIDE MOUNTED TO CONCRETE
SCALE: NONE



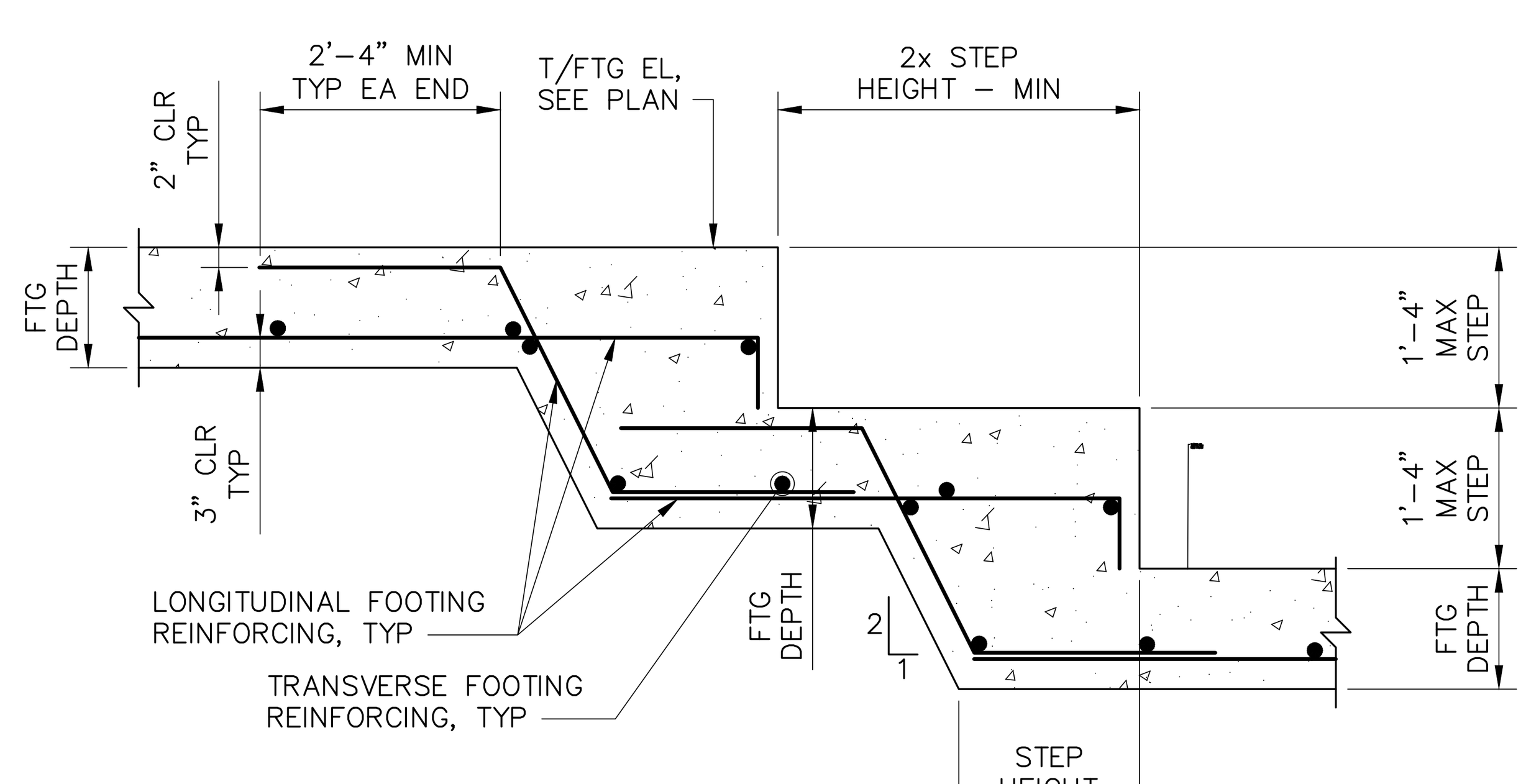
J S-11 EMBEDDED ANGLE IN CONCRETE WALL
SCALE: NONE



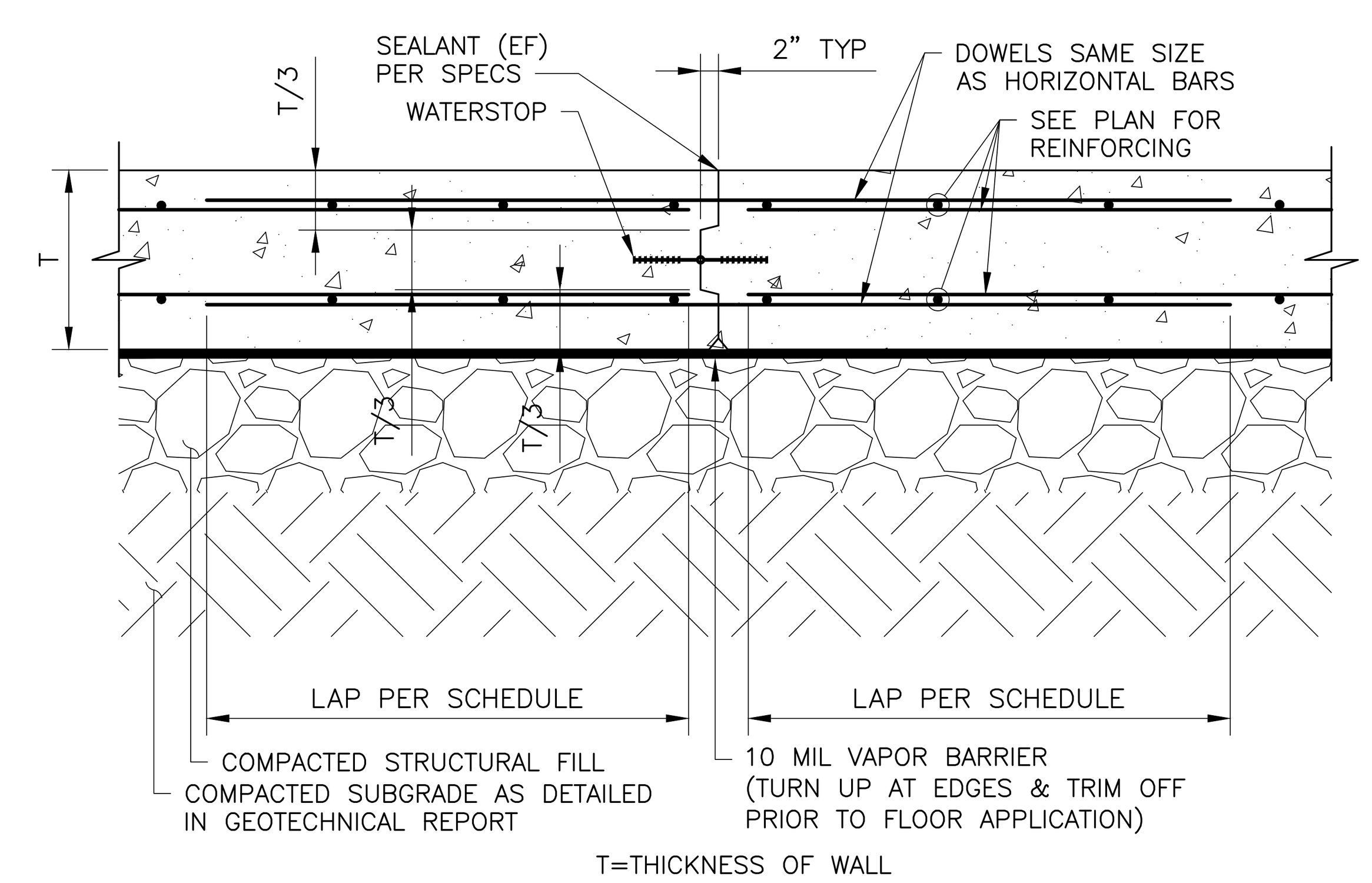
K S-11 UTILITY PIPE THROUGH FOOTING
SCALE: NONE



L S-11 UTILITY PIPE UNDER FOOTING
SCALE: NONE



M S-11 STEPPED FOOTING
SCALE: NONE



N S-11 MAT/FOOTING CONSTRUCTION JOINT
SCALE: NONE

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STATE OF MARYLAND ★ RACHEL LYNNE ALBRECHT No. 23393 ★ PROFESSIONAL ENGINEER

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NO.	DESCRIPTION	BY	DATE
	REVISIONS		

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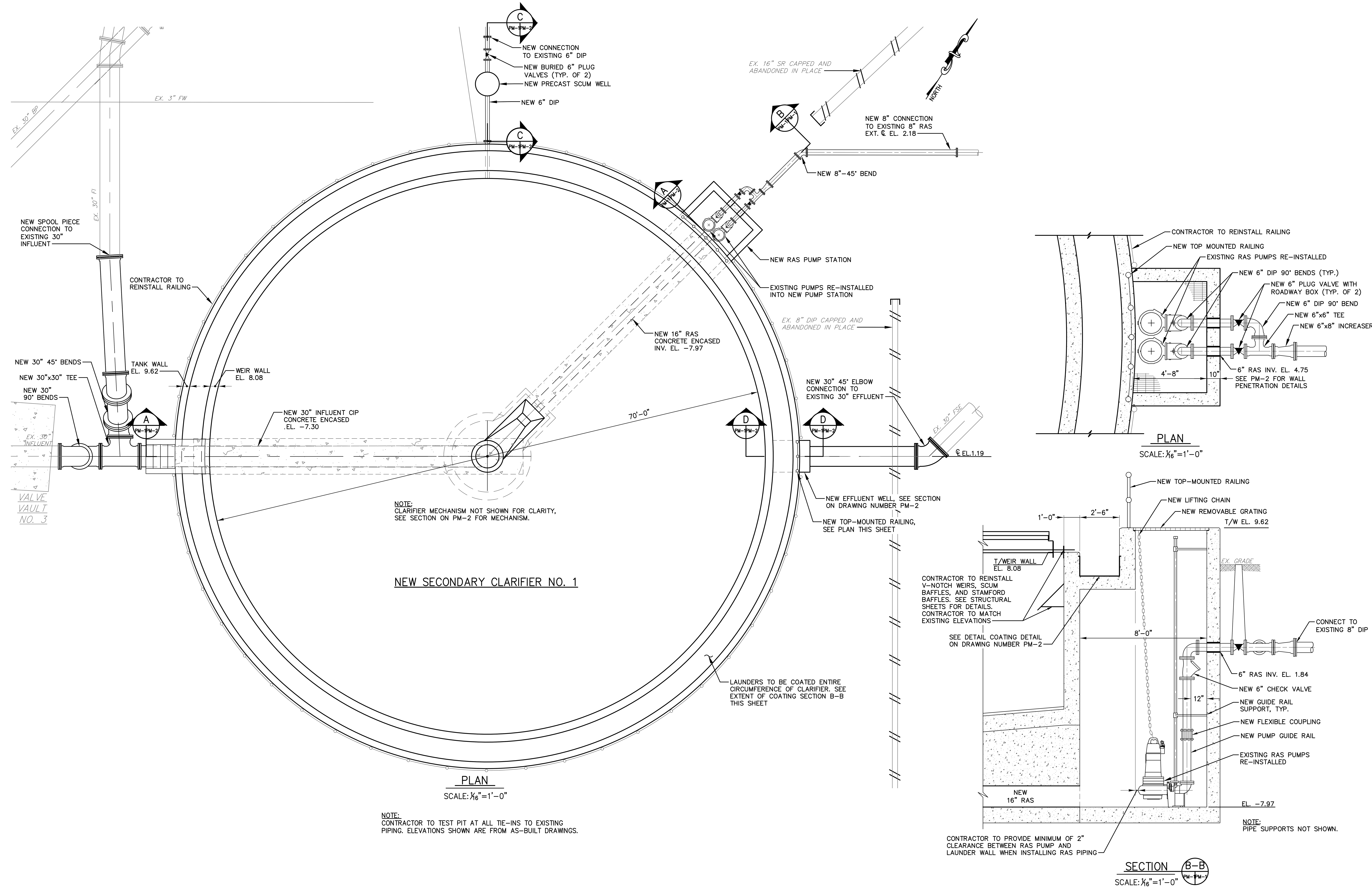
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

TYPICAL STRUCTURAL DETAILS

ENGINEER	DESIGNED BY
RLA	CCC
DRAWN BY	DATE
KAP	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
S–11

RKK21\SYS – C:\Users\AEI–2\Albrecht Engineering Inc\AEI Server – Documents\Projects\2019\2019–023 MetCom St. Marys Co\04 CADD\03 STRUCT\2019–023 STRUCTURAL.dwg
Jul 02, 2021 – 9:22am ENV.CTB Plot Scale 1=1 Plot By: Kevin A Price Layout: S–11



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REVISIONS

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SECONDARY CLARIFIER NO. 1
PLAN AND DETAILS

ENGINEER	DESIGNED BY
RJA	MLT
DRAWN BY	DATE
DED	4/2021

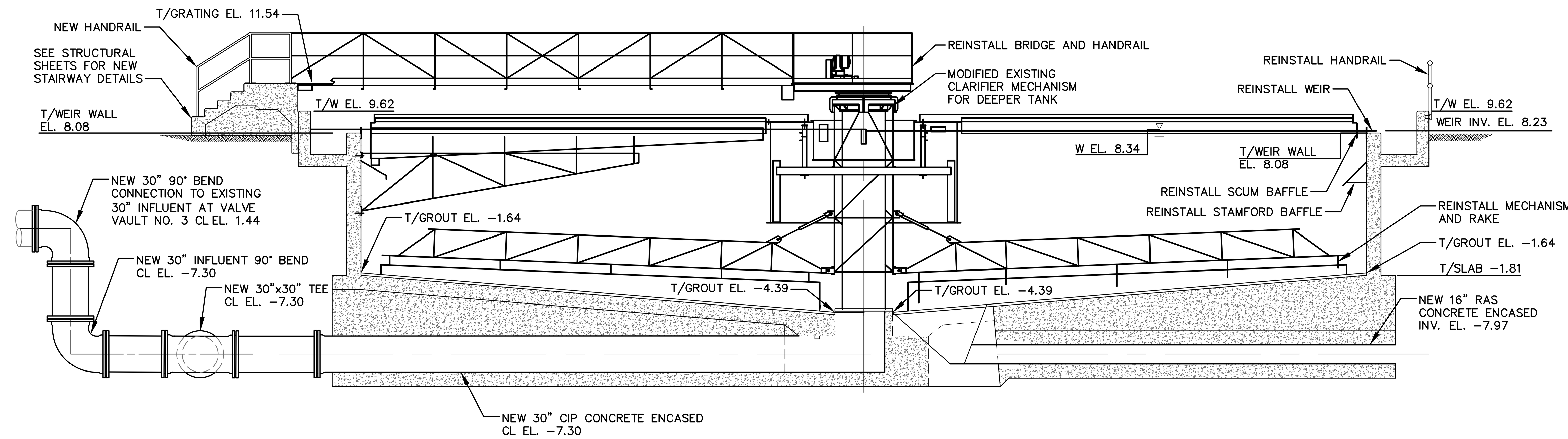
PROJECT NUMBER
8191SR

DRAWING NUMBER
PM-1

SHEET NO. 21 OF 28

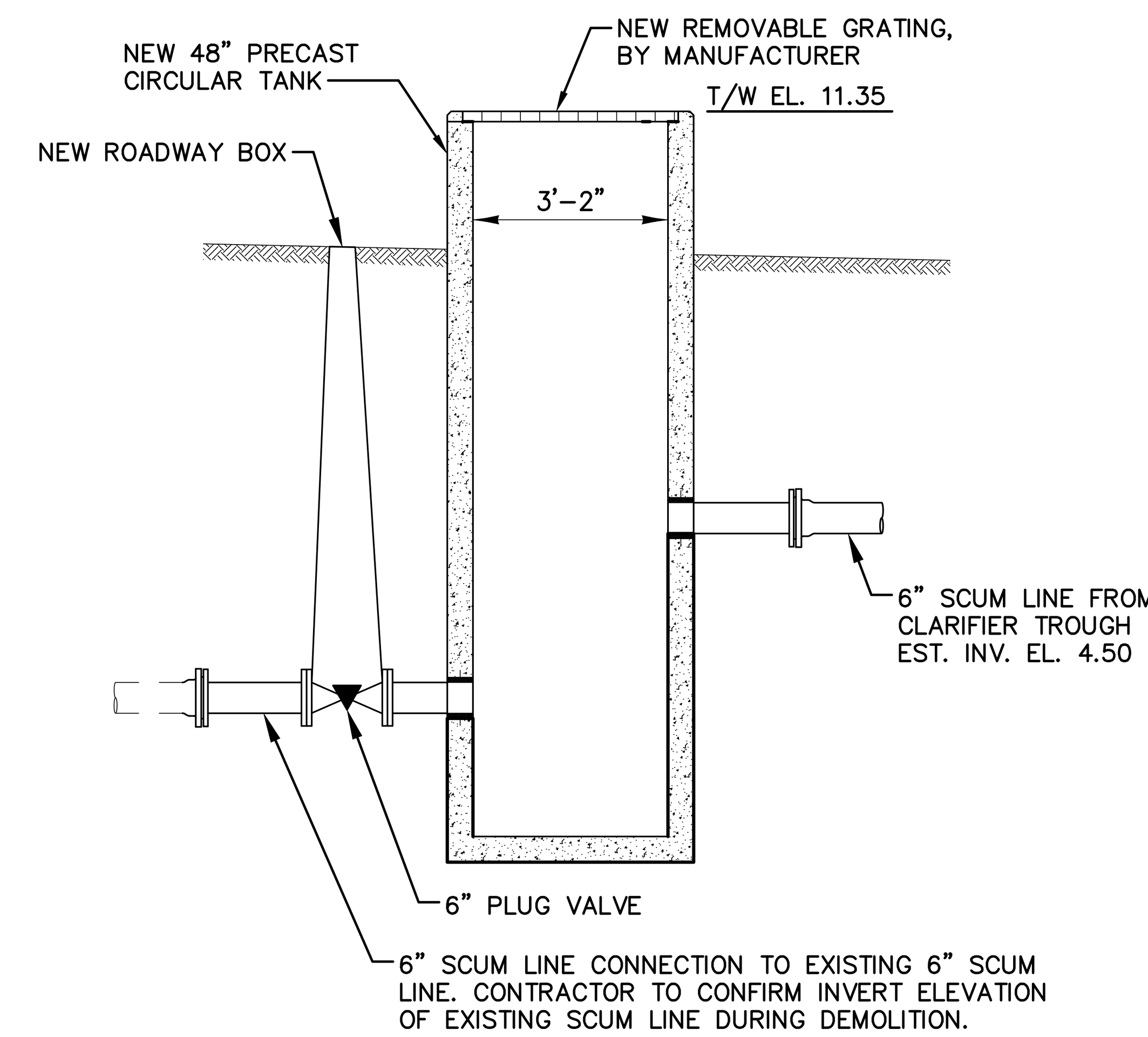
NOTES:

1. EXISTING CLARIFIER MECHANISM TO BE MODIFIED FOR DEEPER TANK AND INSTALLED PER SPECIFICATIONS.
2. NEW RAS PUMP STATION NOT SHOWN.

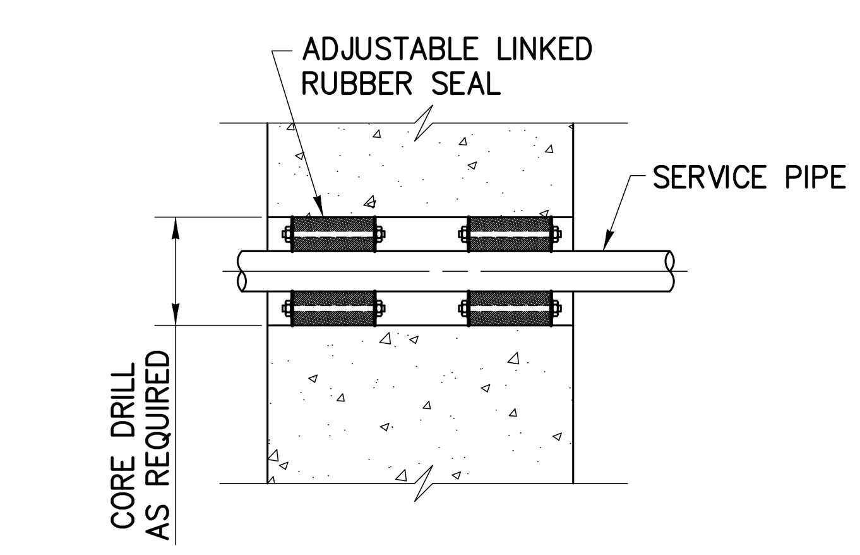


SECTION (A–A)
SCALE: 1/16"=1'-0" PM-PM-2

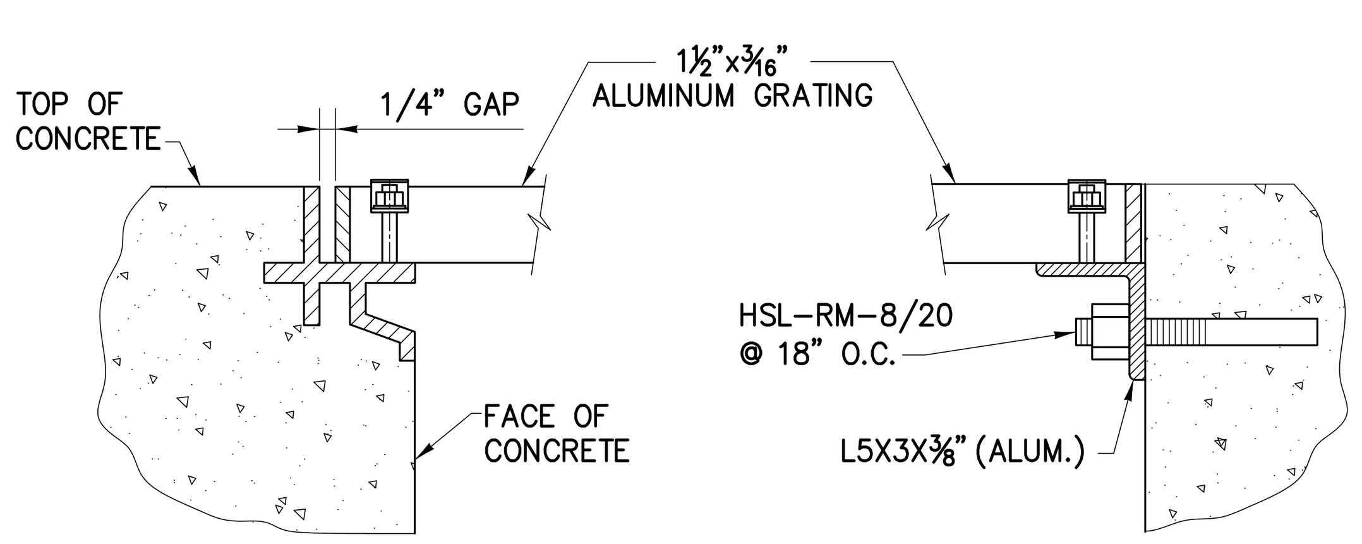
NOTE:
EXISTING PIPING ELEVATION UNKNOWN. CONTRACTOR TO MAKE BOTTOM OF TANK 2 FEET BELOW INVERT OF SCUM LINE.



SECTION (C–C)
SCALE: 3/8"=1'-0" PM-PM-2



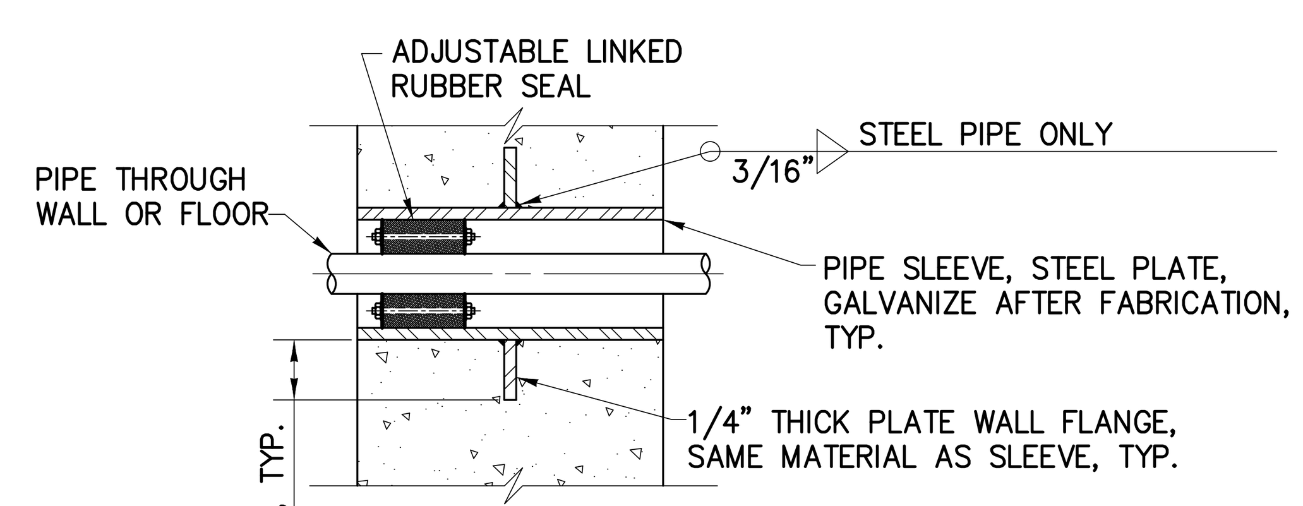
PIPE WALL PENETRATION DETAIL
NOT TO SCALE



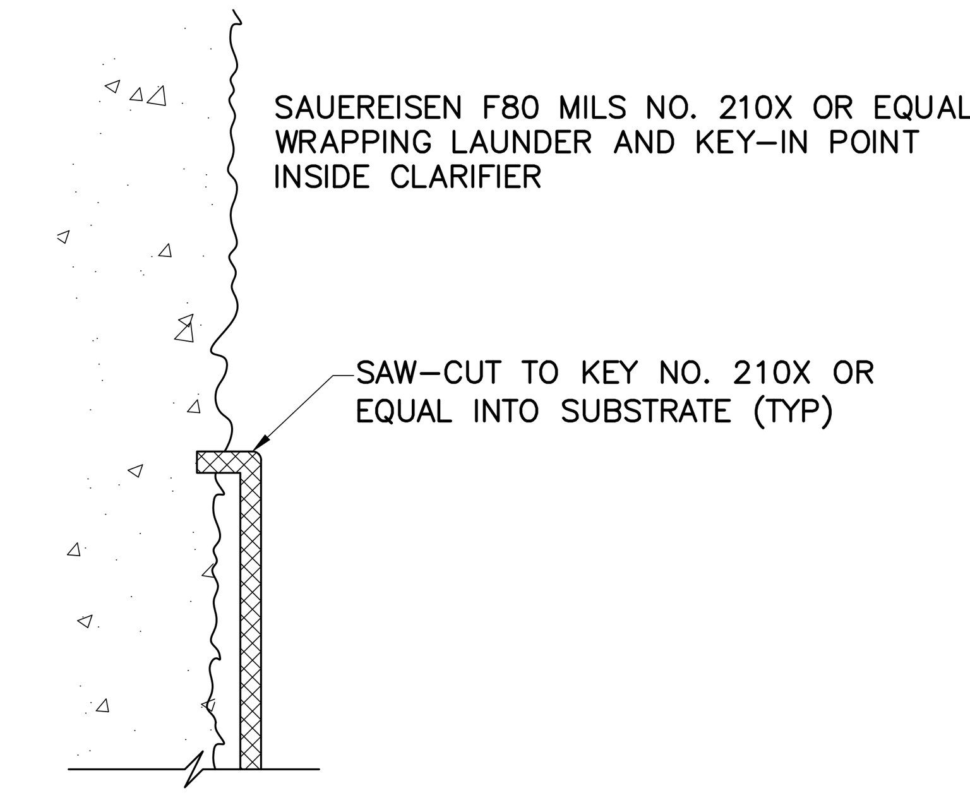
NOTES:

1. MITER AND WELD ALL FRAME CORNERS.
2. ANGLE JOINTS MUST ALIGN WITH JOINTS IN WALL OR SLAB.
3. GRATING SHALL BE SECURED WITH REMOVABLE FASTENERS.

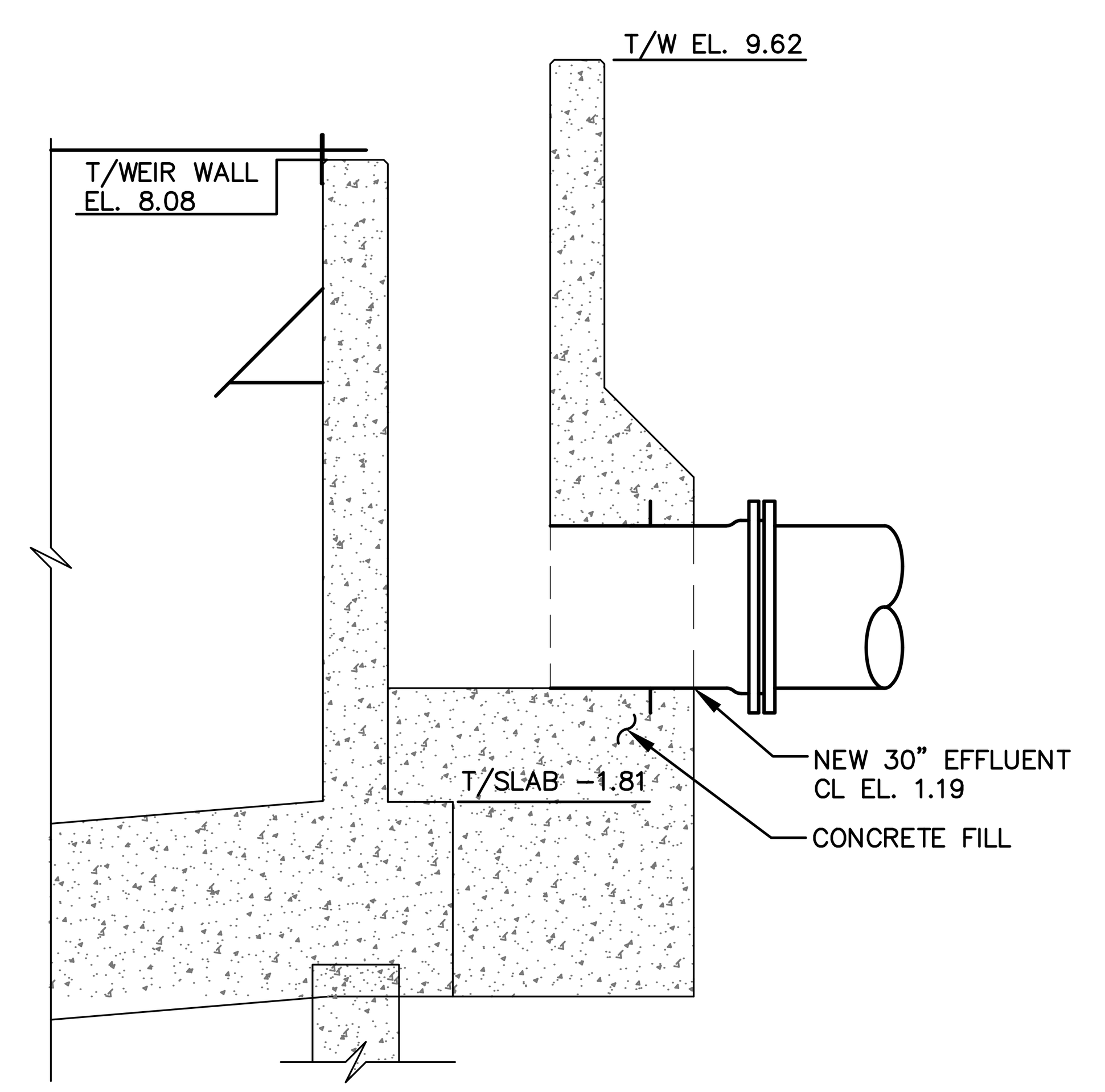
GRATING SUPPORT DETAILS
NOT TO SCALE



SLEEVED PIPE OPENING
NOT TO SCALE



PROTECTIVE LINING DETAIL
NOT TO SCALE



SECTION (D–D)
SCALE: 3/8"=1'-0" PM-PM-2

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NO.	DESCRIPTION	BY	DATE

REVISIONS

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SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

SECONDARY CLARIFIER NO. 1
SECTION AND DETAILS

ENGINEER	DESIGNED BY
RJA	MLT
DRAWN BY	DATE
DED	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
PM-2

ELECTRICAL ABBREVIATIONS

A	–	AMPERES
A.F.F.	–	ABOVE FINISHED FLOOR
ATS	–	AUTOMATIC TRANSFER SWITCH
C	–	CONDUIT
G.F.I.	–	GROUND FAULT INTERUPTER
GRD.	–	GROUND
HP	–	HORSEPOWER
KW	–	KILOWATT
MCP	–	MOTOR CIRCUIT PROTECTOR
P	–	POLE
PH	–	PHASE
PR.	–	PAIR
SHLD.	–	SHIELDED
SN	–	SOLID NEUTRAL
T–M	–	THERMAL MAGNETIC
TYP.	–	TYPICAL
V	–	VOLTS
W	–	WIRE, WATT
WP	–	WEATHERPROOF
XFMR	–	TRANSFORMER

ELECTRICAL SYMBOL SCHEDULE

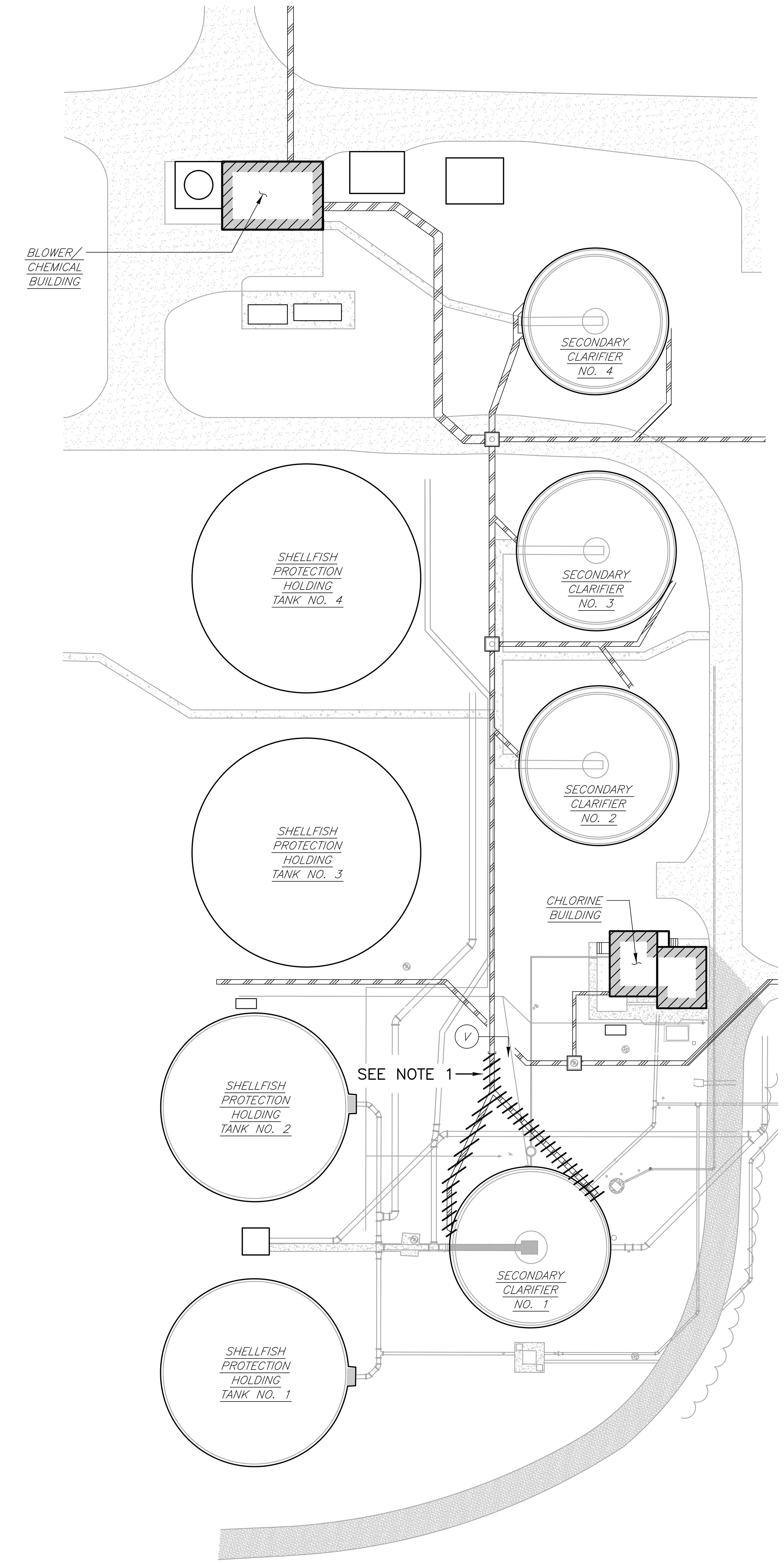
	–	LED LIGHT FIXTURE
	–	INCANDESCENT LIGHT FIXTURE
	–	20A–120V DUPLEX RECEPTACLE
	–	20A–120V SINGLE RECEPTACLE
5	–	MOTOR (NUMBER INDICATES HP)
J	–	JUNCTION BOX
T	–	THERMOSTAT
T	–	TRANSFORMER
S	–	SINGLE POLE SWITCH
	–	HOME RUN TO PANEL
	–	TICKS INDICATE NUMBER OF WIRES – NOT INCLUDING GROUND CONDUCTOR
	–	WIRING CONCEALED IN CONDUIT
	–	CIRCUIT BREAKER
	–	CONTACTOR
	–	THERMAL OVERLOAD
1CR	–	CONTROL RELAY
	–	ELECTRICAL DUCT BANK
A	–	DUCT BANK CROSS SECTION
G	–	#4/0 COPPER GROUND RING

GENERAL ELECTRICAL NOTES (APPLICABLE TO ALL DRAWINGS)

1. EXISTING EQUIPMENT IS SHOWN IN A LIGHT WEIGHT AND IDENTIFIED WITH SLANTED TEXT. NEW EQUIPMENT AND WIRING IS SHOWN BOLD.
2. CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL UNDERGROUND CONDUITS AND DUCT BANKS TO AVOID INTERFERENCES WITH UNDERGROUND PIPING AND UTILITIES.
3. ALL FASTENERS AND MOUNTING HARDWARE USED FOR THE INSTALLATION OF ALL ELECTRICAL ITEMS SHALL BE 316 STAINLESS STEEL.
4. CONTRACTOR SHALL FURNISH AND INSTALL A SEPARATE INSULATED GROUND CONDUCTOR IN ALL CONDUITS. ALL GROUND CONDUCTORS SHALL BE #12 UNLESS NOTED OTHERWISE ON DRAWINGS.

NOTES

1. REMOVE EXISTING ELECTRICAL DUCT BANKS TO SECONDARY CLARIFIER NO. 1 FOR CONSTRUCTION OF NEW SECONDARY CLARIFIER AND INSTALLATION OF A NEW MANHOLE. ELECTRICAL DUCT BANKS WERE INSTALLED IN CONTRACT NO. 8-26-S.



EXISTING ELECTRICAL SITE PLAN

1"=40' 40' 20' 0 40' 80'

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 50811 , EXPIRATION DATE: 6/14/2023.

STATE OF MARYLAND — D. TIMOTHY BOLLINGER — 50811 — PROFESSIONAL ENGINEER

RK&K
RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

NO.	DESCRIPTION	BY	DATE

REVISIONS

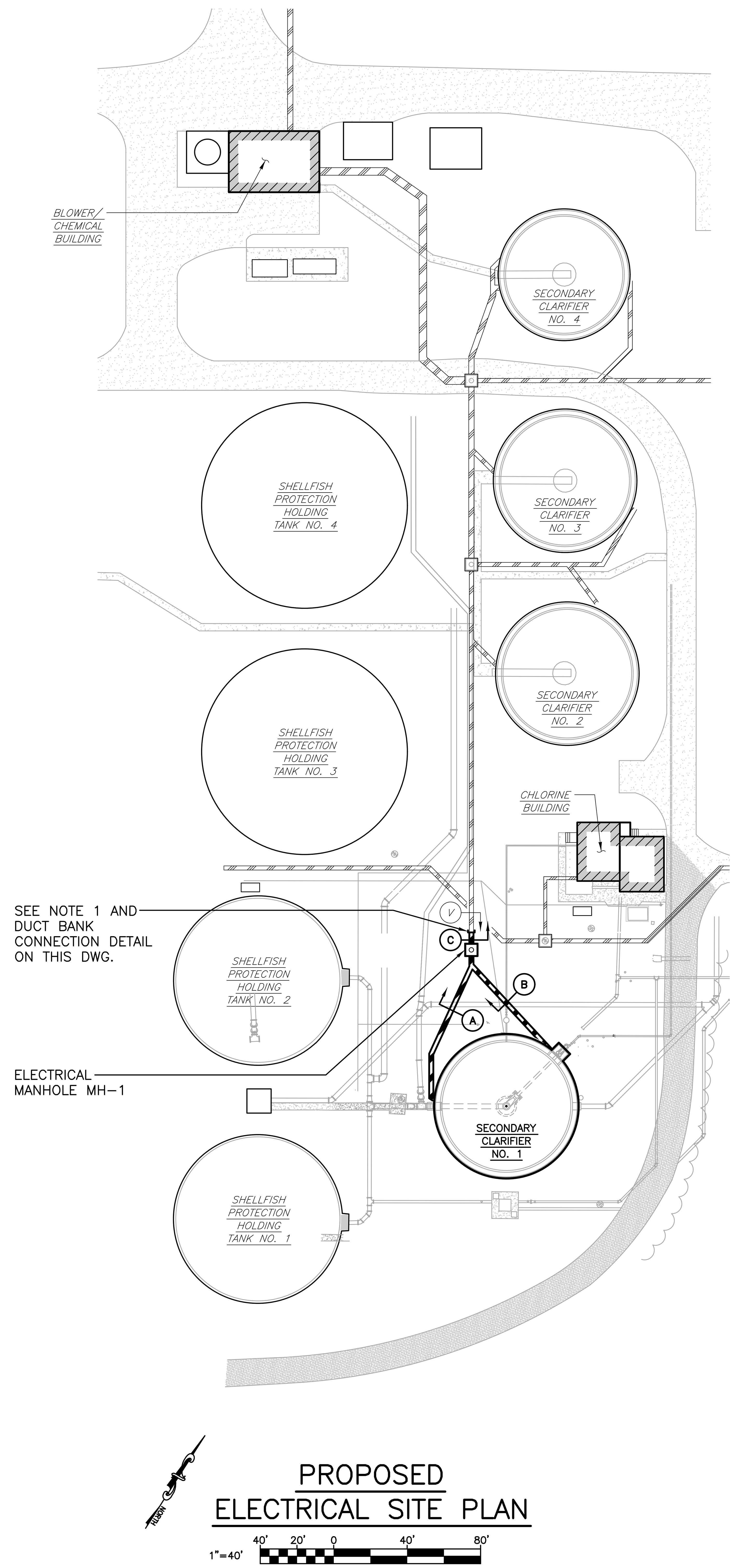
MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

ELECTRICAL ABBREVIATIONS, SYMBOLS, NOTES AND EXISTING SITE PLAN

ENGINEER	DESIGNED BY
DTB	SMJ
DRAWN BY	DATE
SMJ	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER

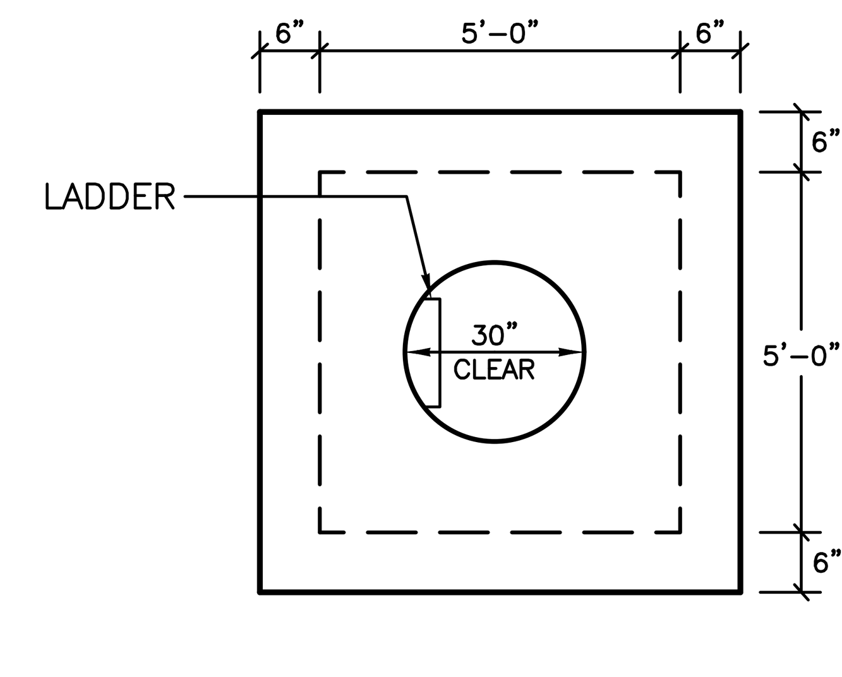
E–1



PROPOSED ELECTRICAL SITE PLAN

NOTES

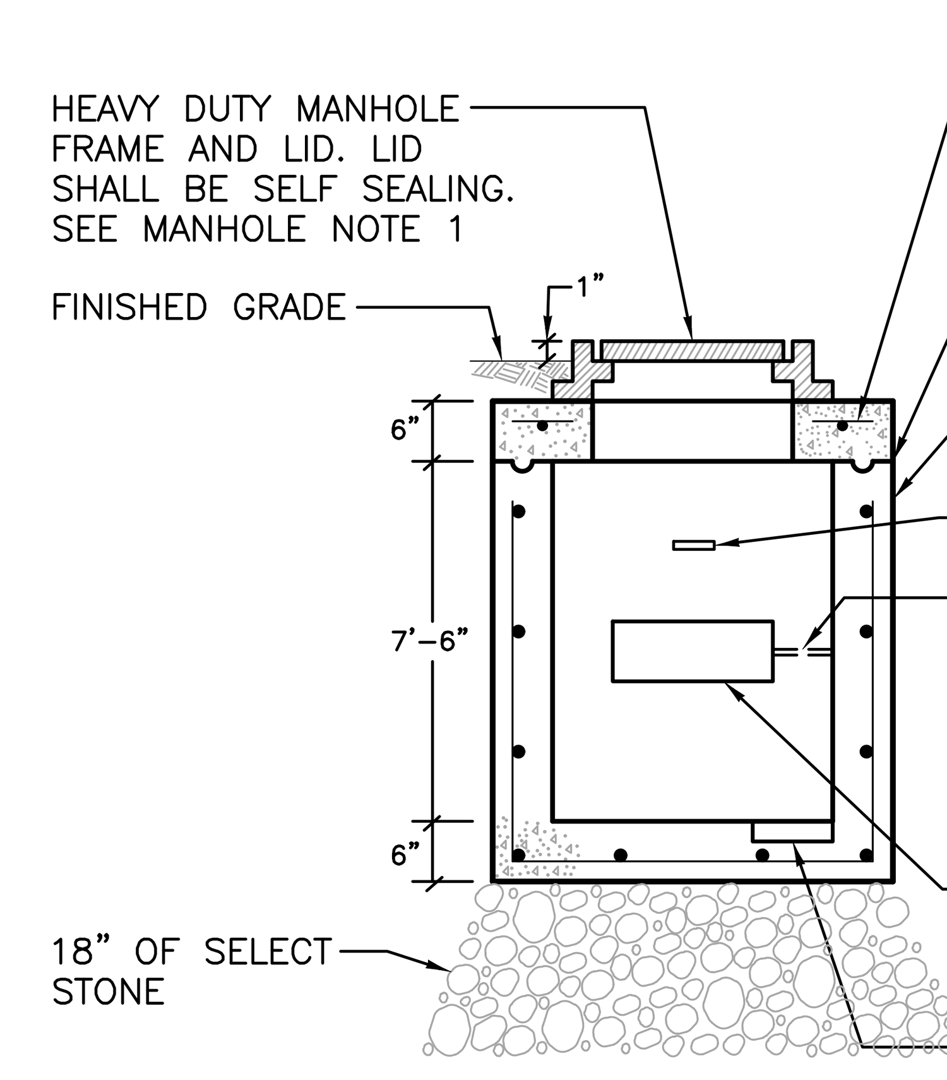
1. CONTRACTOR SHALL EXCAVATE A TEST PIT TO CONFIRM EXACT LOCATION OF EXISTING DUCT BANK TO SECONDARY CLARIFIER NO. 1.



PLAN VIEW

MANHOLE NOTES

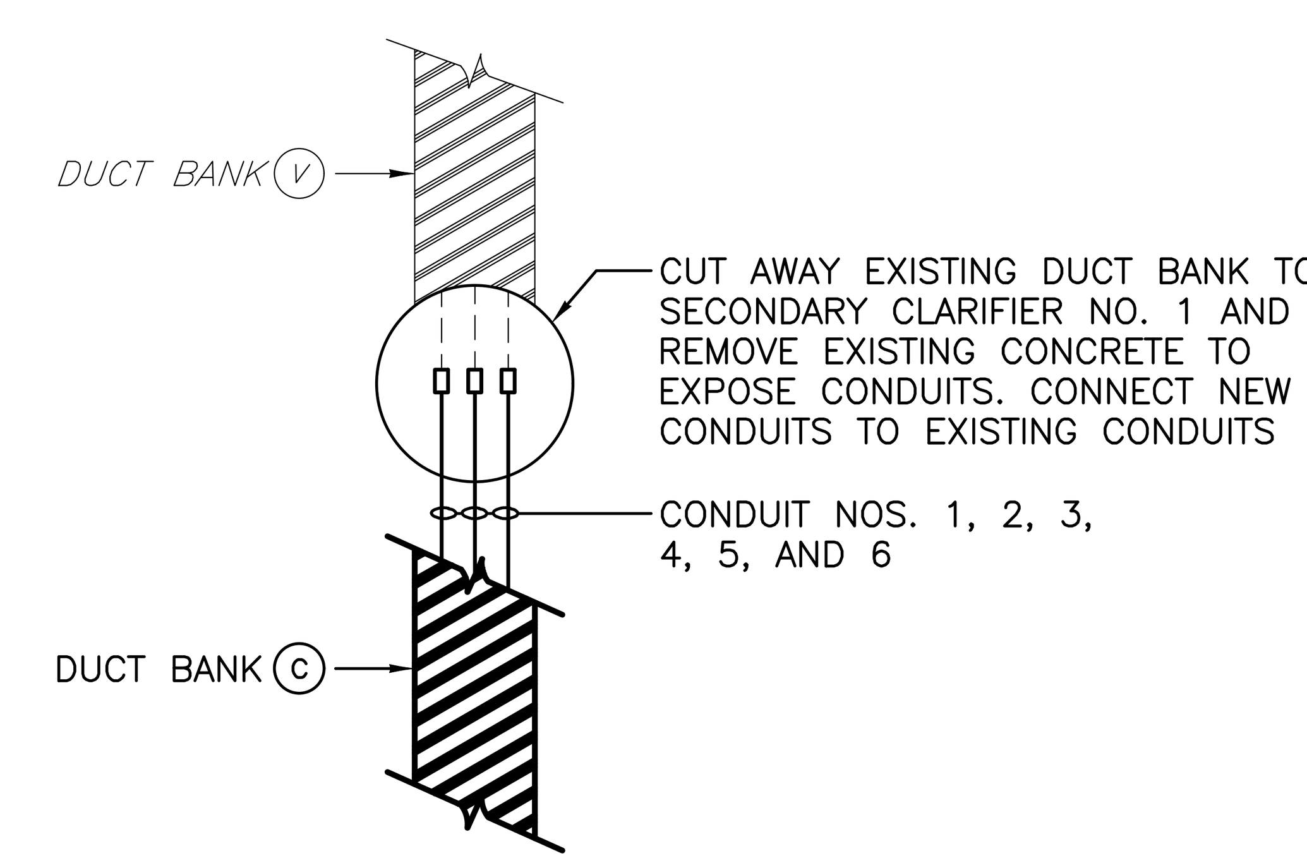
1. MANHOLE LID SHALL BE STAMPED "ELECTRIC". INSTALL A PLASTIC INSERT IN MANHOLE LID.
2. PROVIDE A FIBERGLASS ACCESS LADDER IN THE MANHOLE.
3. ALL DUCT BANK ENTRIES INTO THE MANHOLE SHALL BE SEALED WATERTIGHT.



SECTION

TYPICAL MANHOLE DETAIL

NO SCALE



DUCT BANK Ⓒ CONNECTION DETAIL

NO SCALE

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RK&K

RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

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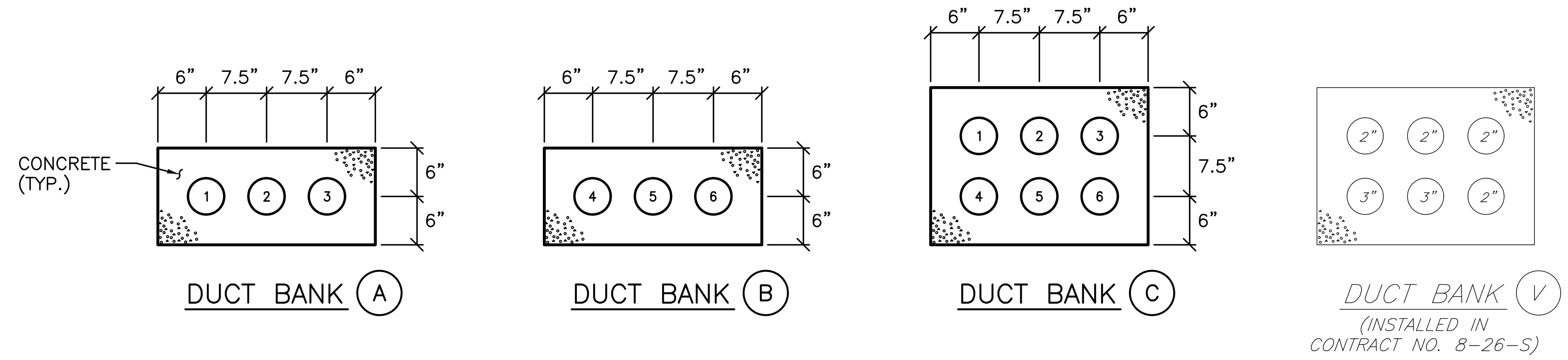
MARLAY-TAYLOR WATER RECLAMATION FACILITY
SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARYS COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

PROPOSED ELECTRICAL SITE PLAN AND SITE DETAILS

ENGINEER	DESIGNED BY
DTB	SMJ
DRAWN BY	DATE
SMJ	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER

E-2



DUCT BANK CONDUIT SCHEDULE

CONDUIT NO.	CONDUIT SIZE	CONDUIT MATERIAL	FROM	TO	VIA DUCT BANKS	CIRCUITS
1	2"	PVC	SECONDARY CLARIFIER NO. 1 PULL BOX	EXISTING 2"C IN DUCT BANK (V)	(A)(C)	SECONDARY CLARIFIER DRIVE MOTOR FEEDER FROM MCC-B
2	2"	PVC	SECONDARY CLARIFIER NO. 1 PULL BOX	EXISTING 2"C IN DUCT BANK (V)	(A)(C)	120V CONTROL WIRING TO MCC-B
3	2"	PVC	SECONDARY CLARIFIER NO. 1 PULL BOX	EXISTING 2"C IN DUCT BANK (V)	(A)(C)	SPARE
4	3"	PVC	RAS PUMP ELECTRICAL BACKBOARD	EXISTING 3"C IN DUCT BANK (V)	(B)(C)	RAS PUMP NO. 1 MOTOR FEEDER FROM MCC-B
5	3"	PVC	RAS PUMP ELECTRICAL BACKBOARD	EXISTING 3"C IN DUCT BANK (V)	(B)(C)	RAS PUMP NO. 2 MOTOR FEEDER FROM MCC-B
6	2"	PVC	RAS PUMP ELECTRICAL BACKBOARD	EXISTING 2"C IN DUCT BANK (V)	(B)(C)	120V CONTROL WIRING TO MCC-B

PROFESSIONAL CERTIFICATION

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NO.	DESCRIPTION	BY	DATE

REVISIONS

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SECONDARY CLARIFIER NO. 1 REPLACEMENT
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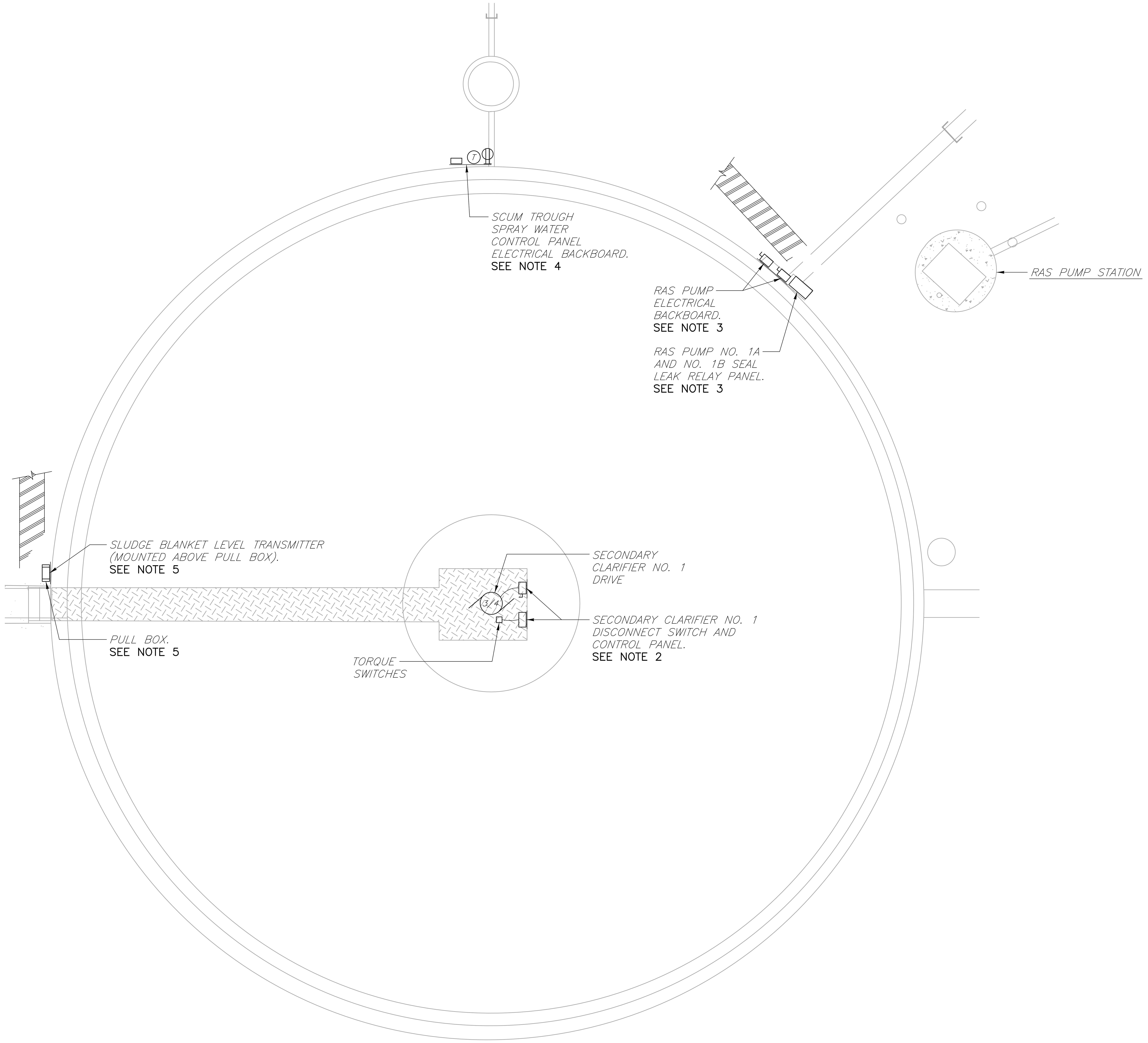
DUCT BANK CROSS SECTIONS AND CONDUIT SCHEDULE

ENGINEER	DESIGNED BY
DTB	SMJ
DRAWN BY	DATE
SMJ	4/2021

PROJECT NUMBER 8191SR

DRAWING NUMBER E-3



SECONDARY CLARIFIER NO. 1 ELECTRICAL DEMOLITION PLAN

3/16"=1'-0" 4' 2' 0 4' 8' 12'

NOTES

1. WHERE EQUIPMENT IS SHOWN BEING REMOVED OR RELOCATED, REMOVE ALL ASSOCIATED WIRE AND EXPOSED CONDUIT.
2. REMOVE EXISTING SECONDARY CLARIFIER DISCONNECT SWITCH AND CONTROL PANEL AND RE-INSTALL ON THE NEW SECONDARY CLARIFIER BRIDGE. REMOVE EXISTING BACKBOARDS IN THEIR ENTIRETY.
3. REMOVE EXISTING RAS PUMP DISCONNECT SWITCHES AND SEAL LEAK RELAY PANEL AND RE-INSTALL ON NEW ELECTRICAL BACKBOARD. REMOVE EXISTING BACKBOARD IN ITS ENTIRETY.
4. REMOVE EXISTING SCUM TROUGH SPRAY WATER CONTROL PANEL AND ELECTRICAL BACKBOARD IN ITS ENTIRETY.
5. REMOVE PULL BOX AND SLUDGE BLANKET LEVEL TRANSMITTER AND BACKBOARD IN ITS ENTIRETY.

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BALTIMORE, MARYLAND 21202 410.728.2900
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ST. MARY'S COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

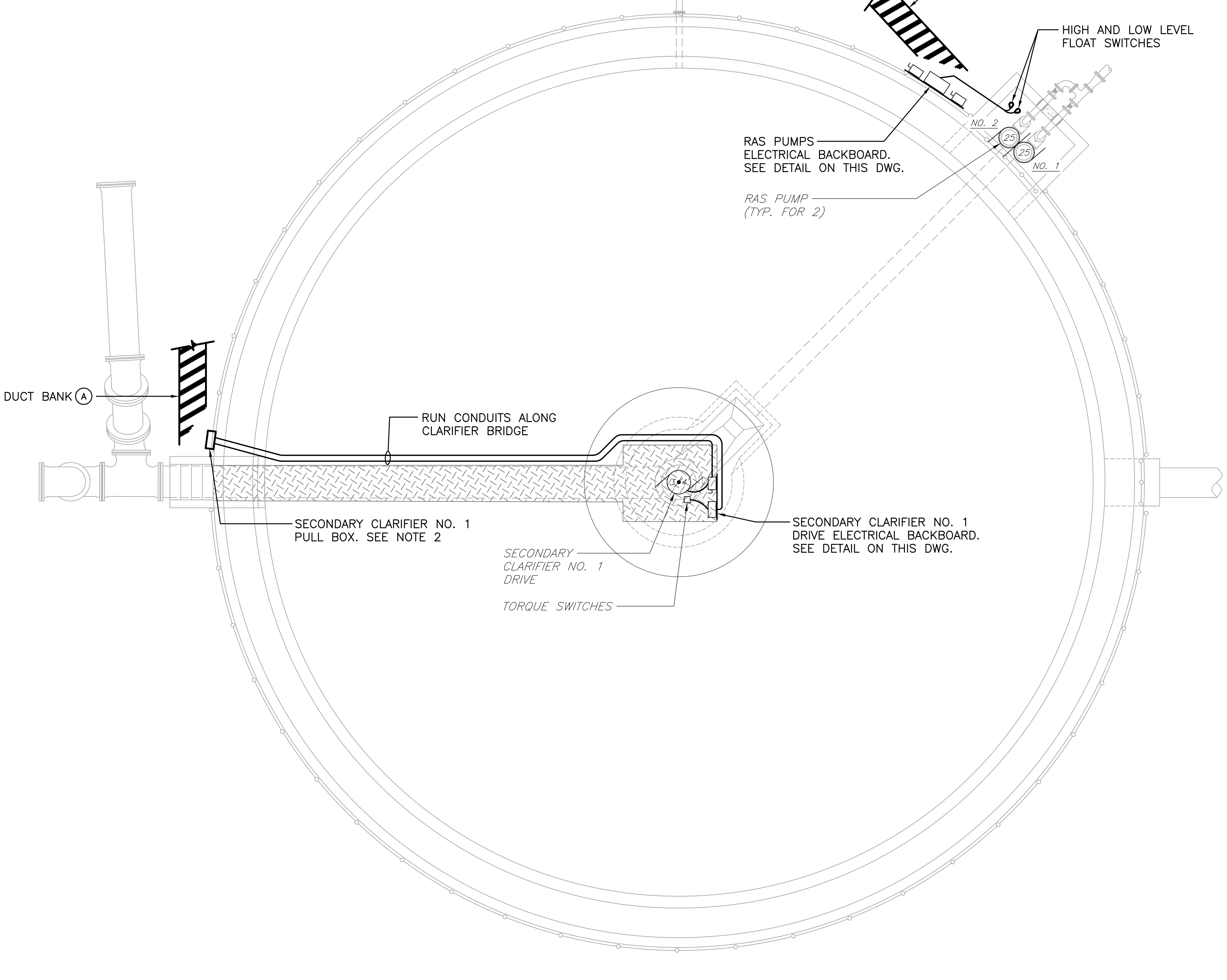
SECONDARY CLARIFIER NO. 1
ELECTRICAL DEMOLITION PLAN

ENGINEER	DESIGNED BY
DTB	SMJ
DRAWN BY	DATE
SMJ	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
E-4

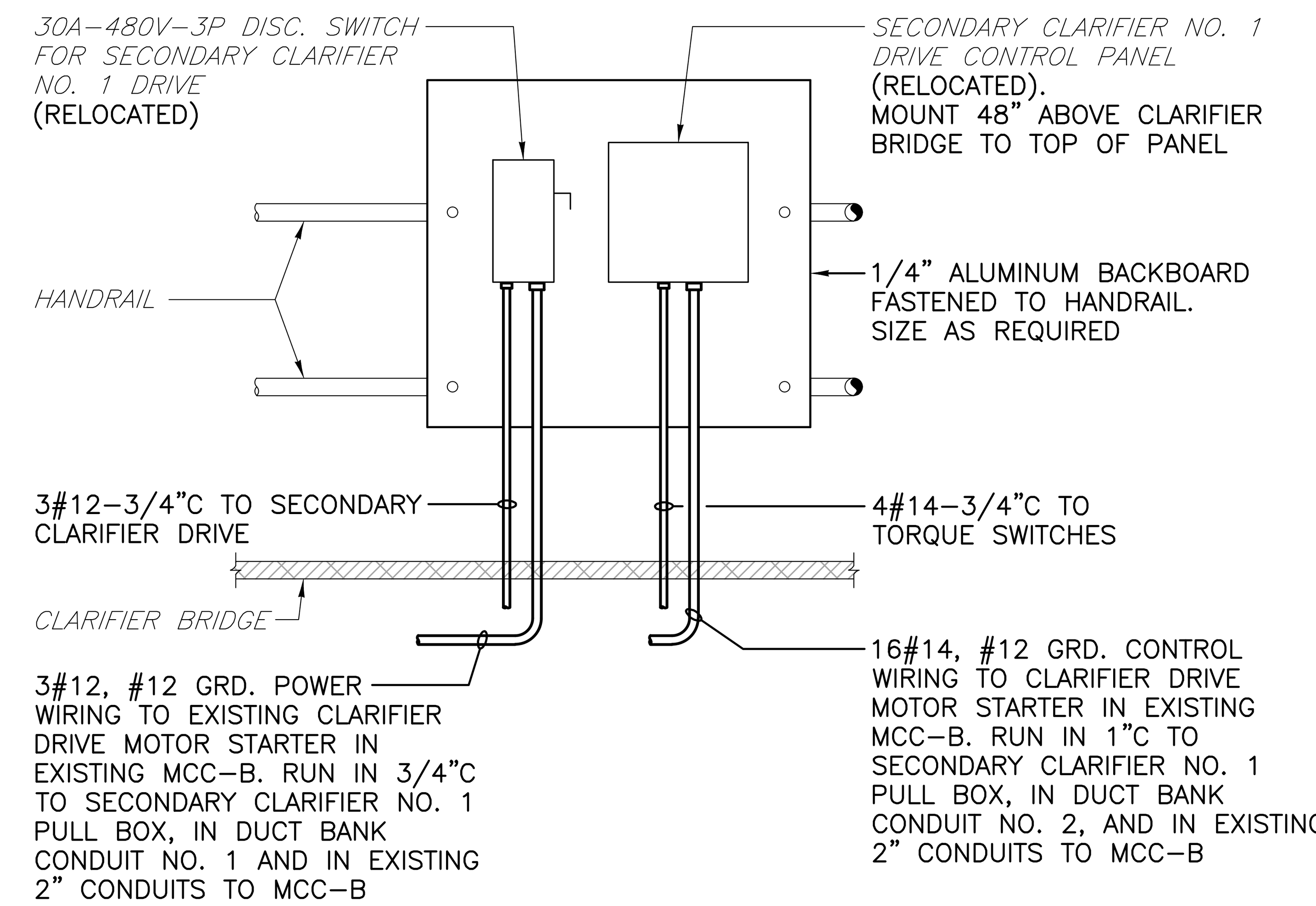
NOTES

1. ALL EXPOSED CONDUIT AT SECONDARY CLARIFIER NO. 1 SHALL BE RIGID ALUMINUM.
2. THE SECONDARY CLARIFIER NO. 1 PULL BOX SHALL BE NEMA 4X ALUMINUM, SIZE: 12"H x 18"W x 8"D. WALL MOUNT PULL BOX ON AN ALUMINUM BACKBOARD FASTENED TO STAINLESS STEEL UNI-STRUT.



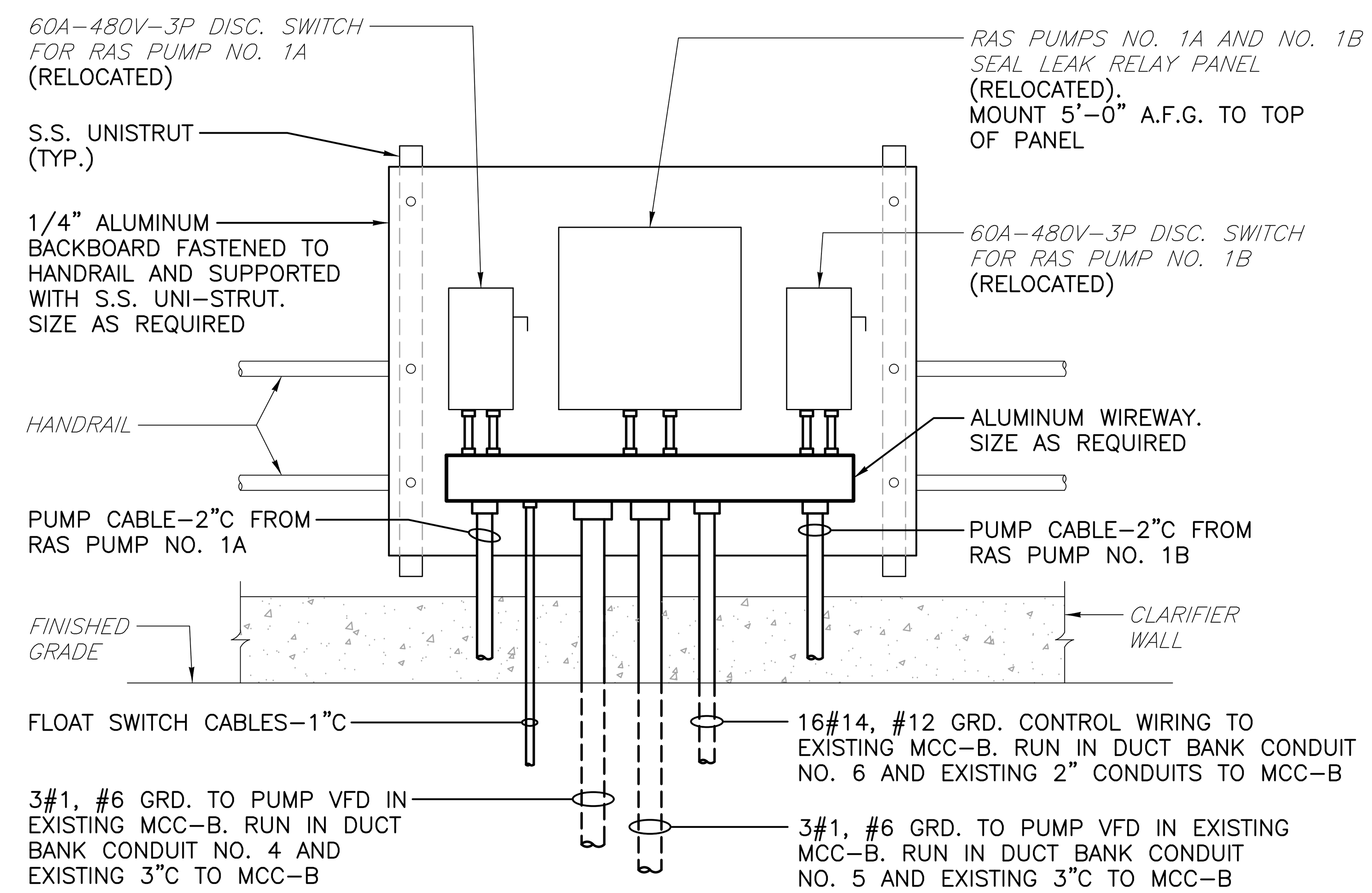
SECONDARY CLARIFIER NO. 1 ELECTRICAL PLAN

3/16"=1'-0"



SECONDARY CLARIFIER NO. 1 DRIVE ELECTRICAL BACKBOARD DETAIL

NO SCALE



RAS PUMPS ELECTRICAL BACKBOARD DETAIL

NO SCALE

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700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202 410.728.2900
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REVISIONS

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SECONDARY CLARIFIER NO. 1 ELECTRICAL PLAN

ENGINEER	DESIGNED BY
DTB	SMJ
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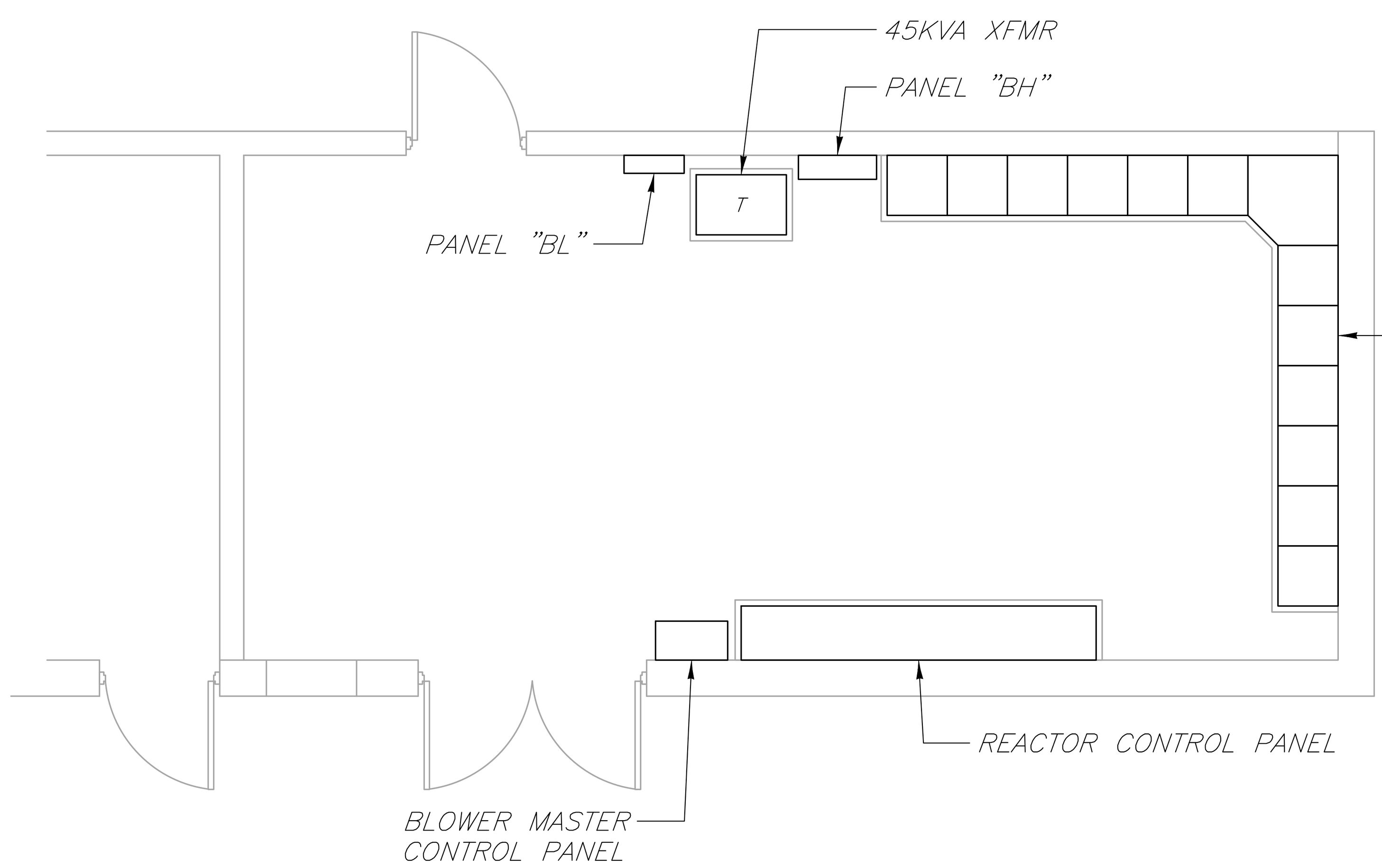
SMJ	4/2021
PROJECT NUMBER	
8191SR	

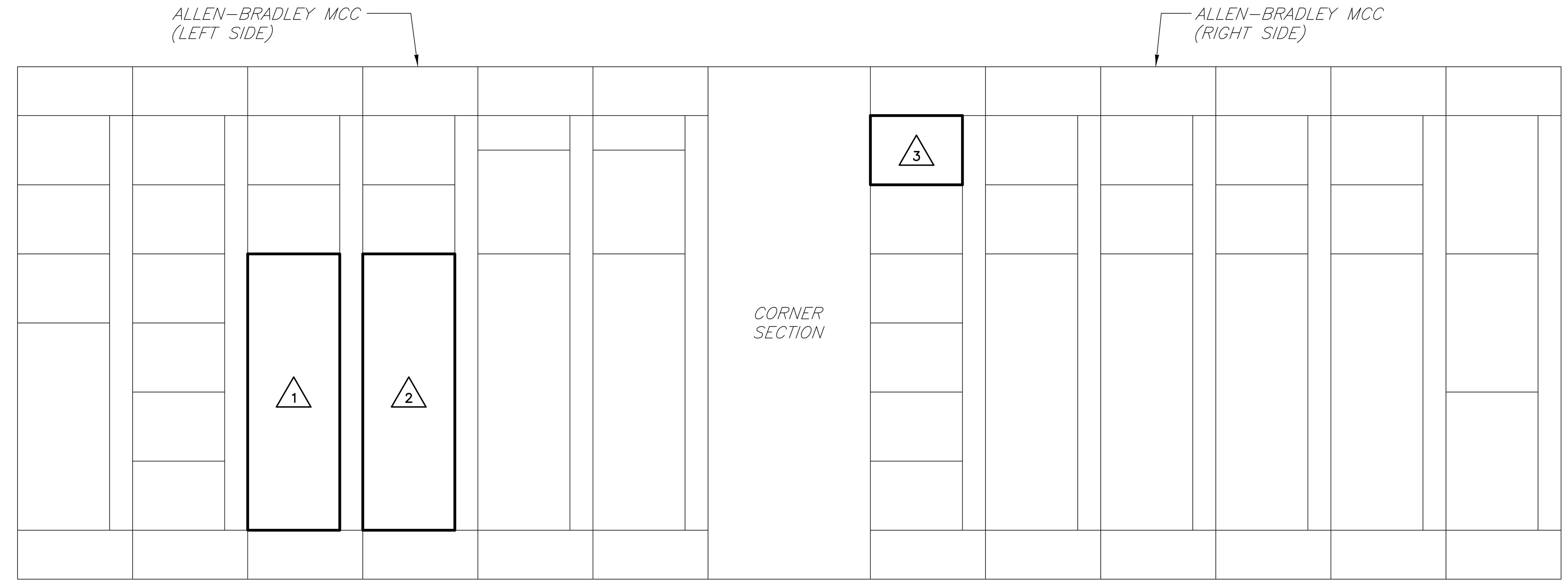
DRAWING NUMBER

E-5



BLOWER/CHEMICAL BUILDING
ELECTRICAL PLAN

1/4"=1'-0"



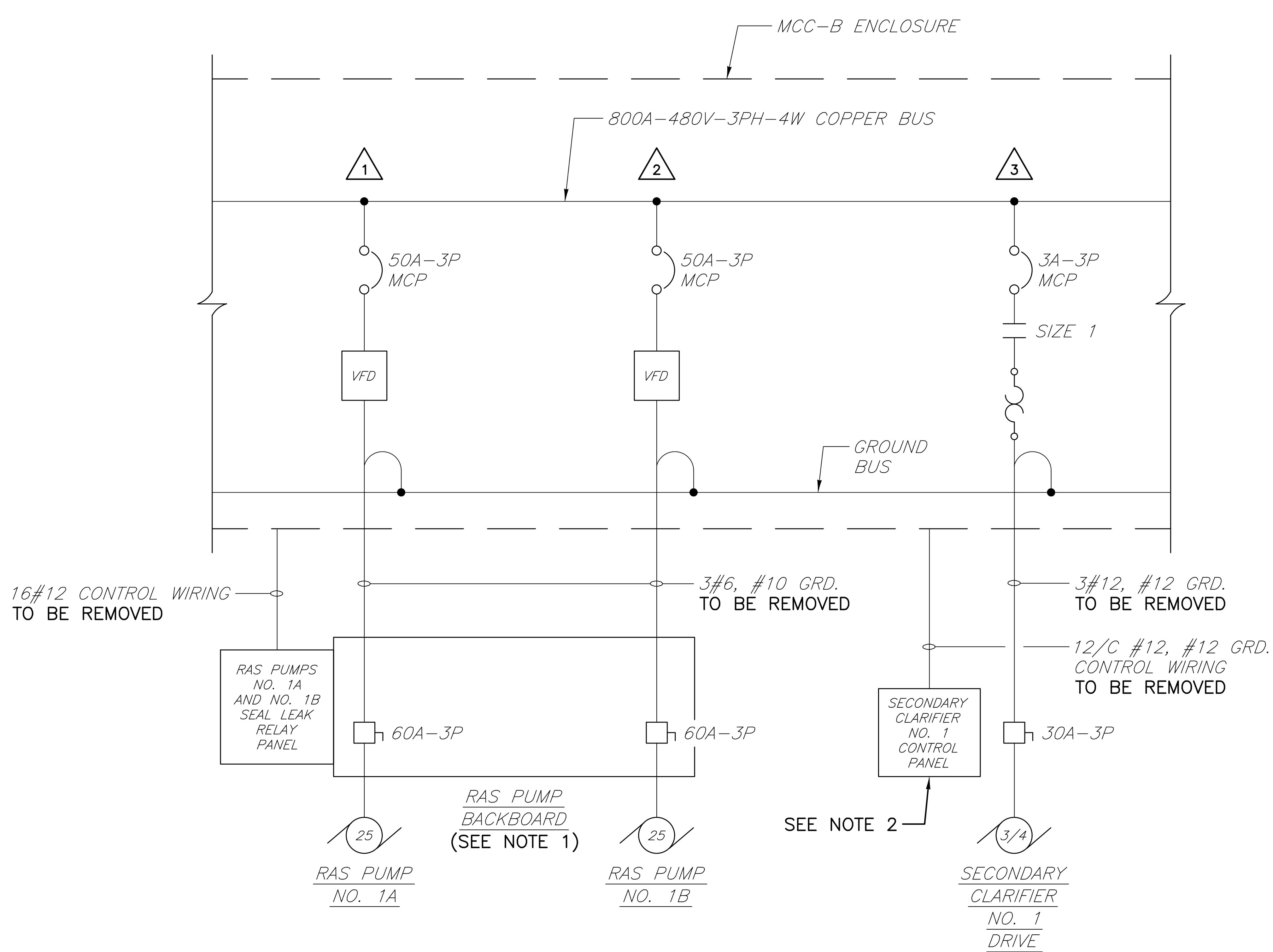
EXISTING MCC-B ELEVATION
MODIFICATIONS

NOTES

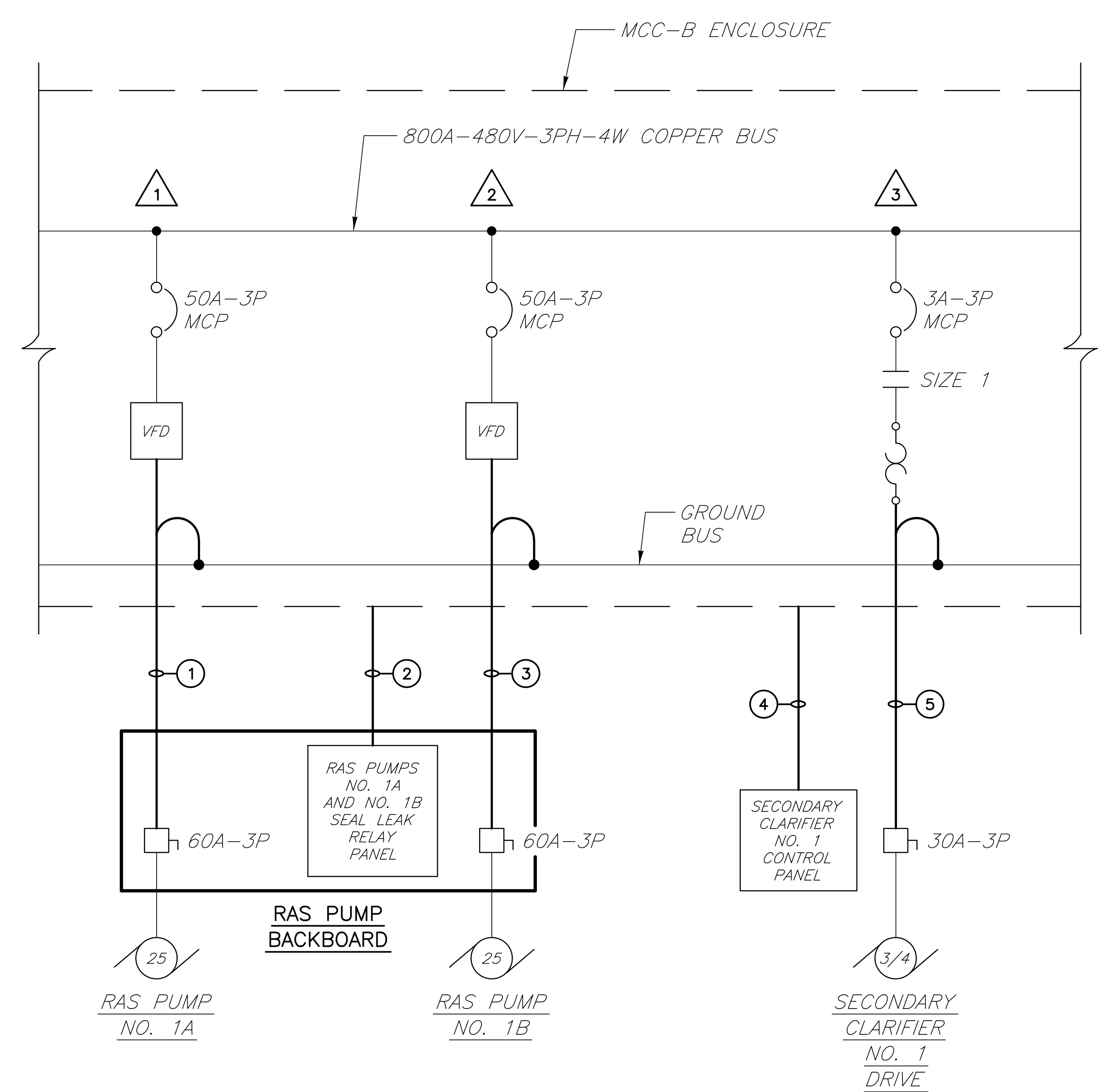
1. THE EXISTING RAS PUMP BACKBOARD SHALL BE REMOVED. THE EXISTING RAS PUMP DISCONNECT SWITCHES AND SEAL LEAK RELAY PANEL SHALL BE RELOCATED TO A NEW BACKBOARD ADJACENT TO THE RELOCATED RAS PUMPS.
2. THE EXISTING SECONDARY CLARIFIER NO. 1 DISCONNECT SWITCH AND CONTROL PANEL SHALL BE REMOVED FROM THE EXISTING CLARIFIER BRIDGE AND RELOCATED TO THE BRIDGE AFTER THE BRIDGE IS INSTALLED IN THE NEW SECONDARY CLARIFIER.

WIRING LEGEND

1. 3#1, #6 GRD. RUN IN DUCT BANK CONDUIT NO. 4 AND EXISTING 3"C
2. 16#14, #12 GRD. CONTROL WIRING. RUN IN DUCT BANK CONDUIT NO. 6 AND EXISTING 2" CONDUITS
3. 3#1, #6 GRD. RUN IN DUCT BANK CONDUIT NO. 5 AND EXISTING 3"C
4. 16#14, #12 GRD. CONTROL WIRING. RUN IN DUCT BANK CONDUIT NO. 2 AND EXISTING 2" CONDUITS
5. 3#12, #12 GRD. RUN IN DUCT BANK CONDUIT NO. 1 AND EXISTING 2"C



EXISTING MCC-B MODIFICATIONS
ONE-LINE DIAGRAM



PROPOSED MCC-B MODIFICATIONS
ONE-LINE DIAGRAM

PROFESSIONAL CERTIFICATION

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BALTIMORE, MARYLAND 21202 410.728.2900
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

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SECONDARY CLARIFIER NO. 1 REPLACEMENT
ST. MARYS COUNTY METROPOLITAN COMMISSION
23121 CAMDEN WAY, CALIFORNIA, MD 20619 (301) 737-7400

BLOWER/CHEMICAL BUILDING
ELECTRICAL PLAN AND ONE-LINE DIAGRAMS

ENGINEER	DESIGNED BY
DTB	SMJ
DRAWN BY	DATE
SMJ	4/2021
PROJECT NUMBER	
8191SR	

DRAWING NUMBER
E-6
SHEET NO. 28 OF 28